Implementing and Evaluating the UPC to Promote Capacity Building among Drug Demand Reduction Practitioners in Nigeria: Lessons Learned and Future Directions

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BACKGROUND: There has been a growing need to improve the knowledge and skills of addiction practitioners worldwide. The development of the Universal Prevention Curriculum (UPC) is one effort to address these needs. This paper is the first to report findings from the implementation of the Core: Introduction to the Universal Prevention Curriculum. **AIMS:** The aims of this study were to (1) consider the feasibility of implementing UPC in Nigeria; (2) determine whether the programme was delivered as designed; (3) determine whether training objectives were met; (4) highlight connections between the CoP model and essential components of the implementation process; (5) assess trainer proficiency. **METHODS:** Instruments included a pre-post knowledge assessment developed by UPC national trainers and a post-training survey adapted from the UPC manual that included several open-ended questions and a trainer proficiency survey. **PARTICIPANTS:** From March 2019 to March 2020, 202 drug demand reduction practitioners participated in the six-day training conducted in ten cohorts. Participants represented a wide range of disciplinary and professional backgrounds. **RESULTS:** 194 (96%) of the participants completed both the pre- and post-test survey. The difference in the mean scores demonstrate objective gains in foundational knowledge, statistically significant ($p < .001$) and the effect size was large (2.038). All participants agreed that the curriculum was implemented as designed, objectives were met, and that the course is relevant to their practice with an average rating of between 4.6 and 4.7 on a maximum scale of 5. All facilitators ranked "proficient" (> 76%). **CONCLUSION:** The practitioners in this study work in varied professional environments and come from diverse ethnic groups with very different languages and traditions. That they all agreed upon the relevance of the training demonstrates the feasibility of implementing a standardized curriculum on substance use prevention in Nigeria.

Keywords | Substance Use Prevention – Drug Demand Reduction – Universal Prevention Curriculum – Capacity Building – Facilitation – Nigeria

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1 INTRODUCTION

The shortage of well-trained healthcare professionals in the field of substance use disorders is dire. The quality of training varies greatly worldwide, and standardised training programmes are lacking (Arya et al., 2020; Muzyk et al., 2017). In response to this global shortage, Applied Prevention Science International, the Bureau of International Narcotics and Law Enforcement Affairs (INL), the Colombo Plan Drug Advisory Programme (DAP), the Global Centre for Credentialing and Certification (GCCC), the International Consortium of Universities for Drug Demand Reduction (ICUDDR), and the International Society of Substance Use Professionals (ISSUP), have partnered to develop, test, disseminate, and coordinate implementation of two complementary evidence-based training series: the Universal Prevention Curriculum (UPC) and the Universal Treatment Curriculum (UTC). The Universal Prevention Curriculum Practitioners (UPC-P) Series, currently under development, is written for practitioners from a wide range of disciplines and professional backgrounds who work with families, in schools, the workplace, and the community. It is based on the UNODC/WHO International Standards on Drug Use Prevention and aims to equip practitioners with the knowledge and skills needed to implement effective evidence-based prevention programmes in their community settings. The foundational course is the *Core: Introduction to the Universal Prevention Curriculum Series for Practitioners* (hereafter referred to as the CORE; see *Table 1,* UPC Core Modules). Upon completion of this mandatory course, participants can choose from among seven specialty tracks that are relevant to their specific needs. This paper describes the implementation and evaluation of the CORE curriculum in Nigeria, which is also currently being implemented and tested in locations throughout the world.

1.1 The UPC Professional Development Model

Educational theories are an essential part of evidence-based educational practice (Baldwin et al., 2017; Barr, 2013). The UPC-P series is informed by Wenger's Community of Practice (CoP) social learning theory that promotes self-empowerment and professional development through adherence to principles of adult learning (Li et al., 2009; Wenger, 2010). The applied problem-based curriculum is directly relevant to issues encountered in practice. Learning takes place through highly interactive small group activities to leverage the wide range of skills, perspectives, and levels of experience that practitioners bring to the process. Opportunities for guided practice and feedback are essential (Moore et al., 2009). Trainers step back from the role of expert, assume the role of facilitator, and are responsible for creating a safe environment where participants do not feel threatened, anxious, or embarrassed (Freeman et al., 2010). Learners are encouraged to ask questions, try out new roles or skills, and make mistakes (Li et al., 2009). Properly trained facilitators are an essential component of the model (Berta et al., 2015).

1.2 Drugs, prevention, and practitioner capacity in the Nigerian context

Nigeria has long been plagued by the burden of disease and social problems resulting from psychoactive substance use. The country has a history of prohibition and draconian drug policies, and the primary response to the problem has been through the National Drug Law Enforcement Agency (NDLEA), the coordinating agency for all drug laws and enforcement activities in Nigeria. While the law enforcement approach has done little to reduce drug use in Nigeria, public health approaches have been marginalized. Furthermore, the effectiveness of the Drug Demand Reduction (DDR) unit established within the NDLEA is compromised by insufficient staffing, inadequate funding, and a lack of support from within the bureaucracy (Nelson, Obot & Umoh, 2017; Obot, 2004).

For decades, Nigeria has been a global transit point for illicit drugs produced elsewhere (Alemika, 2013). Today, it is fast becoming a source nation due to the cultivation and availability of cannabis in most parts of the country, the existence of clandestine methamphetamine labs, and continued availability of illicitly manufactured and diverted pharmaceutical products containing narcotic drugs and psychotropic substances. The 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 *Drug Use in Nigeria,* the first comprehensive national drug use survey conducted in 2017 (UNODC, 2018). Among the population aged 15–64, 14.3 million (14.4%) use at least one psychoactive substance *(excluding alcohol and tobacco).* This figure is considerably higher than the 2016 global annual prevalence (5.6%) of *all* drug use among the adult population. In addition, among these 14.3 million, 20% have drug use disorders, a figure that exceeds the global average by 11%. Additionally, 25% of people who use drugs in Nigeria are women. This is especially problematic. According to the World Drug Report, women are at increased risk due to cultural, social, and economic factors. The widespread perception that drug use is a male problem is a notable barrier to seeking help (UNODC, 2019).

The upward trend in psychoactive substance use demonstrates the need to develop and implement evidence-based education and prevention programmes across the country (Adamson, 2015; Vigna-Taglianti et al., 2019). However, prevention activities carried out by the NDLEA are limited to sensitization and awareness programmes. These include programmes for the general populace on the dangers inherent in drug abuse and illicit trafficking, an intensive anti-drug abuse/education programme for youth in schools and out of school, for communities in general, and for prison inmates, road transport workers, market men/women and in workplace and faith-based settings (NDLEA, 2017). Despite these efforts, the nation needs to do more than sensitization. In the 2018 National survey, high-risk users reported lacking access to treatment due to prohibitive costs, the prevalence of stigma, and a lack of knowledge about services and availability. While increasing access to low-cost, evidence-based treatment services is essential, preventing the use of psychoactive substances among

Table 1 | UPC Core Modules

Modules	Learning Objectives
Module 1: Training Introduction	• Describe the importance of substance use prevention • Explain what the Critical Themes are and how they relate to the Universal Prevention Curriculum series • List different settings where substance use prevention occurs in the community • Select one Specialty Track for continuing training in prevention • State at least one personal learning goal
Module 2: Physiology and Pharmacology for Prevention Professionals	• Define psychoactive substances • List general ways in which psychoactive substances affect mood, thoughts, behaviour, and why • List four main categories of psychoactive substances and several substances within each • Discuss the implications of pharmacology of psychoactive substances for prevention
Module 3: Critical Themes of the Universal Prevention Curriculum Series for Implementers	• Define prevention • Describe at least four of the Critical Themes and why they are important • Describe the interactions of the macro- and micro-level influences with personal characteristics that contribute to substance use behaviours • Discuss the relationship between socialization processes and substance use prevention
Module 4: Prevention Science: Definitions and Principles	• Define prevention science • Explain the three components of prevention science and practice: epidemiology/ etiology, intervention/ policy development, and research methodology • Describe the theoretical foundations of prevention • Describe the processes for the development of prevention interventions
Module 5: Critical Theories in Prevention	• Explain why theory is important to the development of effective interventions and policies • Present summaries of the most critical theories on prevention interventions • Discuss how learning theories and behaviour and behaviour change theories guide the development of effective preventive interventions
Module 6: Evidence-based Prevention Interventions and Policies: The UNODC International Standards on Drug Use Prevention	• Describe how the standards provide the evidence of the most effective interventions and policies • List the advantages and disadvantages of delivering evidence-based prevention interventions and policies • Explain how the standards can help guide decisions on selecting the most effective prevention interventions • Analyze how one exemplar prevention intervention addresses the standards elements
Module 7: The Implementation Cycle for Prevention Interventions	• Describe the implementation cycle as a framework for implementation of evidence-based interventions • Identify the implementation steps in each phase of the implementation cycle • Practice some of the skills needed to implement the cycle
Module 8: The Implementation Cycle: Skills and Competencies for Prevention Professionals	• Discuss why it is important to have trained professionals in prevention • Describe the different professionals that are involved in the development and implementation of prevention interventions • Identify, based on participants day-to-day jobs, what their roles are and the knowledge, attitudes, attributes, and skills they should have to perform their roles effectively • Demonstrate the basic skills required to implement an evidence-based intervention based on the different phases of the implementation cycle
Module 9: Code of Ethics for Prevention Professionals	• Summarize and apply some of the basic rules regarding ethics and professional behaviour in prevention programming • Recognize specific situations among colleagues in the workplace or within the community where ethics should guide actions • Apply the code of ethics and ethical decision-making process to different scenarios
Module 10: Application of the CORE to Practice and Professional Development	• Develop a plan for applying evidence-based prevention interventions or policies to personal practice • Develop a professional development plan to continue personal training as a prevention professional

Nigeria's burgeoning at-risk youth population is of critical importance: 41.7% of the population is 0–14 years; 20.27% are 15–24 years old (CIA, 2020).

2 MATERIALS AND METHODS

2.1 Programme planning stage

GISA is the central organization for the Universal Prevention Curriculum (UPC) in Nigeria. The primary author of this article, who is the founder of GISA, signed a memorandum of agreement with the DAP to be an education service provider for UPC training in Nigeria. GISA's first priority was to identify, select, and train national trainers who had experience in drug demand reduction. Funding from INL through DAP aided the programme.

GISA commenced the UPC Training of Trainers in Lagos, Nigeria, in January 2019 with 30 participants. The 30 participants worked in government, private, faith-based, and non-governmental organizations. They were from diverse professional backgrounds, including medicine, psychology, pharmacy, education, sociology, and theology,

The face-to-face training took place over nine days. The course familiarized trainers with the scope and sequence of the CORE curriculum, provided intensive training in content knowledge, and introduced them to adult learning strategies. Trainer manuals include learning objectives and outcomes for each course in a transferable package that needs only minor adaptations to local context and terminology (Miovsky et al., 2019). Training was organized around the CoP model, thereby exposing practitioners to the collaborative, interactive learning environment they would be replicating. To support trainers and optimize quality and consistency of delivery, participants received a comprehensive Trainers Manual with detailed outlines guiding them step-by-step through complete lesson plans. They are also provided with monitoring and feedback. The *UPC-P Trainers Manual* is available on the ISSUP website https://www.issup.net/training/universal-prevention-curriculum.

2.2 Implementing the CORE

Implementation of the CORE commenced on March 19, 2019. The face-to-face training took place in Lagos, Nigeria. This six-day required course provides critical foundational knowledge in a 10-module sequence that introduces participants to the science of prevention, the International Standards on Drug Use Prevention, and the code of ethics for prevention professionals. In addition, it provides skills-building in reviewing data to assess the substance use problem, working with a prevention implementation planning approach, developing logic models to assist in that planning, and learning how to communicate what they've learned to policymakers, staff, and other stakeholders in their communities. The *Participants' Manual* and accompanying PowerPoint slides are available on the ISSUP website https://www.issup.net/training/universal-prevention-curriculum. The data for this paper are based on CORE trainings conducted by GISA in Lagos state, Nigeria between March 2019 and March 2020.

2.3 Aims

The aims of this study were fivefold: to consider the feasibility of implementing the UPC curriculum among drug demand reduction practitioners in Nigeria; to assess adherence to the programme model; to determine whether training objectives were met; to highlight connections between the CoP model and essential components of the implementation process, and to assess trainer proficiency. The CoP lens is used throughout to focus the evaluation and discussion of results.

Primary outcomes: (a) Knowledge gains, (b) Development of self-efficacy.

Secondary outcomes: Participant satisfaction with (a) curriculum and course design, (b) programme delivery, (c) training relevance, (d) trainer proficiency.

2.4 Participants

Once training session was scheduled, recruitment flyers were circulated through practitioners' WhatsApp platforms and other relevant social media. Flyers included information about the CORE training, the UPC Series, and opportunities for certification. Training was open to drug demand reduction practitioners, physicians, psychologists, counsellors, nurses, and other health care workers, educators, coordinators and staff of NGOs/CSOs, law enforcement personnel, government officials, and individuals or representatives of organizations interested in substance use prevention. Those who completed a registration form indicating interest were issued an official letter of invitation to the face-to-face training in Lagos, Nigeria. Information collected at registration included age, gender, highest level of education, field of study, years of experience in the substance use field, and the organizational setting of their workplace (government, NGO, private). Data were entered into an Excel spreadsheet.

2.5 Pre- and post-knowledge assessment

UPC national trainers developed and piloted a pre-post instrument with a working group to verify face validity, readability, and relevance to the knowledge and skills targeted for development in the CORE training. Based upon the UNODC/WHO International Standards on Drug Use Prevention, it consisted of 15 matched multiple-choice questions and 10 matched true/false questions designed to assess knowledge across three domains: the science of substance use; primary objectives/types of effective prevention strategies; and the knowledge and skills required for certification as professional substance use prevention provider. A paired-samples t-test was conducted along with Cohen's D to assess effect size (Salkind, 2010). Analysis was carried out using SPSS Version 23.

2.6 Post-training evaluation

The *Trainers Manual* included a post-training survey that was administered on the last day of the course. It contained 20 items to assess aspects of the training across four domains: curriculum and course design; programme delivery; training relevance; and practitioners' development of self-efficacy. Answers were based on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Means and standard deviations were calculated. To solicit comments on participants' experiences and guide future training, the survey included four free-text questions asking participants: What did you like most about the training? What did you like least about the training? 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 chosen 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 CORE training and CoP theory.

2.7 Trainer proficiency

Facilitators are an essential component of the CoP model (Berta et al., 2015). The *Trainers Manual* included a survey asking participants to rate their facilitators in five areas. Two areas address individual characteristics: knowledge of subject matter and demeanor. 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.

3 RESULTS

3.1 Participation

From March 2019 to March 2020, 202 substance use prevention practitioners participated in the six-day training. Ten cohorts were trained during that time; each included between 15 and 30 participants. One hundred and eighty-six (92%) completed at least five of the six days of training, and 168 (83%) attended all six days. Participants ranged in age from 26 to 56+; the majority were female (57%); 43% were male. Five percent held a National Diploma/Nursing Certificate or equivalent, while the majority (54%) held a first degree or equivalent, and 41% held advanced degrees. More than a third of attendees (36%) had five years or less experience in the substance use field; 21% had between 6–10 years, 17% had between 11–15 years, and 15% had 20 or more years of experience in the field.

Practitioners represented a wide range of disciplinary and professional backgrounds *(Table 2)*. Combined, 44% were from the fields of education (24%) and medicine (20%). Seventeen percent were from psychology, guidance, and counselling fields; 15% were from related fields, including nursing, public health, and social work; 9% were from business/public relations backgrounds. The remainder represented a vast array of disciplinary and professional backgrounds that included law enforcement, the ministry, biochemistry, and occupational therapy.

Table 2 | CORE Participants

Field of study/Professional background	Number of participants
Education	48 (24%)
Medicine/Surgery, Pharmacy, Pharmacology/Toxicology, Psychiatry	41 (20%)
Psychology, Guidance & Counselling	36 (18%)
Nursing, Public health, Social work, Sociology	31 (15%)
Business/Public administration	18 (9%)
Other	28 (14%)
Total	**202**

Table 3 includes the results of the pre and post-test knowledge assessment. Of the total number of participants, 194 (96%) completed both the pre and post-test survey. The mean difference between baseline scores and those observed following training demonstrate objective gains in foundational knowledge. The results were statistically significant ($p < .001$), and the effect size was large (2.038).

Table 4 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, 181 (89%) completed the post-training evaluation. Findings were notably consistent across each domain.

3.2 Curriculum and course design

All participants agreed that objectives and outcomes were clear, content was up to date, materials were useful, and the number and sequence of modules were sufficient to achieve course ob-

Table 3 | Pre- and Post-course knowledge assessment (March 2019–March 2020)

Total score N = 194	Pre-course	Post-course	Difference (post-pre-course)	P value	Effect size Cohen's D
Mean (SD)	13.2371 (3. 4903)	19.6753 (2.8271)	6.4382 (-.6632)	< .001	2.038

Table 4 | CORE Post-Training Evaluation (March 2019–March 2020)

	Mean (SD)
Curriculum Content & Course Design	
1: Course content is consistent with the training objectives and outcomes	4.76 (0.43)
2: Course content provides up-to-date information	4.61 (0.56)
3: Training materials are adequate and useful	4.66 (0.56)
4: Training objectives are clearly stated and measurable	4.79 (0.41)
5: Sequence of modules is organised and easy to follow	4.65 (0.52)
6: Number of modules is sufficient to achieve objectives	4.51 (0.58)
7: Sufficient time is allotted to accommodate trainees' inquiries	4.33 (0.71)
8: The time allotted is sufficient to cover the topics and exercises in the module	4.03 (0.93)
9: The graphics are culturally appropriate	4.30 (0.68)
Programme Delivery	
10: The training methodology used promotes maximum learning experiences	4.62 (0.49)
11: The training activities reinforce the learning of important concepts	4.71 (0.50)
12: The illustrations used are relevant and reinforce important concepts	4.62 (0.55)
13: Training approach is well-balanced in terms of contents, activities, and interaction	4.70 (0.48)
Relevance	
14: I believe this training will be useful in my work environment	4.77 (0.43)
15: The training has stimulated and provided me with new insights and knowledge about substance use prevention	4.85 (0.36)
16: The course content is relevant to my work	4.69 (0.52)
Self-Efficacy	
17: I feel better equipped to provide evidence-based substance use prevention	4.65 (0.53)
18: This training has stimulated me to inform others about what I have learnt these past days	4.75 (0.46)
19: I have learnt new things that I feel I will be able to pass onto others	4.79 (0.43)
20: I feel more capable of discussing substance use prevention with people and organizations in this field	4.69 (0.48)

N = 181; rating scale: 1 = strongly disagree, 5 = strongly agree

jectives; mean ratings were at 4.5 or above on the 5-point scale. Participants also agreed that the graphics were culturally appropriate (4.33) and that the time allotted for training was sufficient (4.03). The latter was the lowest mean reported on the survey.

3.3 Programme delivery

Mean ratings were between 4.6 and 4.7. 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 4.69 and 4.85 on the 5-point scale. 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 substance use prevention.

3.5 Development of self-efficacy

Mean ratings were above 4.6 on the 5-point scale. All participants felt that they were better equipped to provide evidence-based substance use prevention, were motivated and able to share what they learned, and felt capable of discussing substance use prevention with people and organizations in the field.

Table 5 displays participants' assessment of facilitators. All were ranked "proficient" in subject knowledge, their ability to engage participants in the learning process, supervision of the training environment, time management, and demeanor.

3.6 Thematic analysis

Out of the 181 surveys completed, there were 232 responses to the questions posed, which were distributed accordingly Q1: What did you like most about the training? (n = 117); Q2: What did you like least about the training? (n = 50); Q3: What information (if any) was missing from the training that you think is

Table 5 | Assessment of facilitators

	Knowledge of subject	Participant engagement	Supervision of training environment	Time management	Demeanor
Trainer 1	96.71	95.5	96	94.6	97.5
Trainer 2	94.8	95	93	94	96
Trainer 3	80	93	93.4	94	97
Trainer 4	87	95.2	94	89.8	88
Trainer 5	89.9	88	90.5	89.1	90

N = 194; scale: Developing (0–25%), Adequate (25–50%), Approaching proficiency (50–75%), Proficient (76–100%)
Note: Only facilitators who were present at each training were included in this assessment.

important? (n = 15); Q4: Do you have any other comments or remarks? (n = 50). After viewing the data set as a whole, comments were organized into four themes: Facilitators, Community of Practice, Social Validation, and Programme Adaptation. 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, wealth of experience) are consistent with findings from participants' assessment of facilitator proficiency in *Table 5*.

Programme Delivery: These comments align with adult learning principles. For instance, simplifying tasks for manageability motivates learners to extend their current skills (Lave & Wenger 1991). As one respondent noted, "I love the way all facilitators took their time to explain all the concepts." Another commented on the way each module was broken down "for easy understanding." They also reflect the pivotal role of facilitators' Form of Delivery (FoD) (Dombrowski et al., 2016), the ability of facilitators to guide, impact skills, and use effective examples to bring the content home are important.

Environment: Comments in this category also reflect 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, "The serene and conducive environment was excellent for me." Another noted, "Nobody is wrong; corrections are made immediately which aids learning." These responses reflect the importance of an informal non-threatening environment and positive, 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 provide insight into participants' interactive experiences and highlight salient features of the CoP model. Mutually beneficial reciprocal learning is essential for a successful CoP. Practitioners valued interactions with "fellow learners," the "opportunity to share knowledge," and "the way the training accommodates people from different professions." Other comments reflect the expected benefits to learning. For example, interactions during group work bring "life to the training" and results in "more knowledge." A comment that captures the reciprocal nature of learning is that the "wealth of experience from all the facilitators as well as participants" helped "to buttress theories presented."

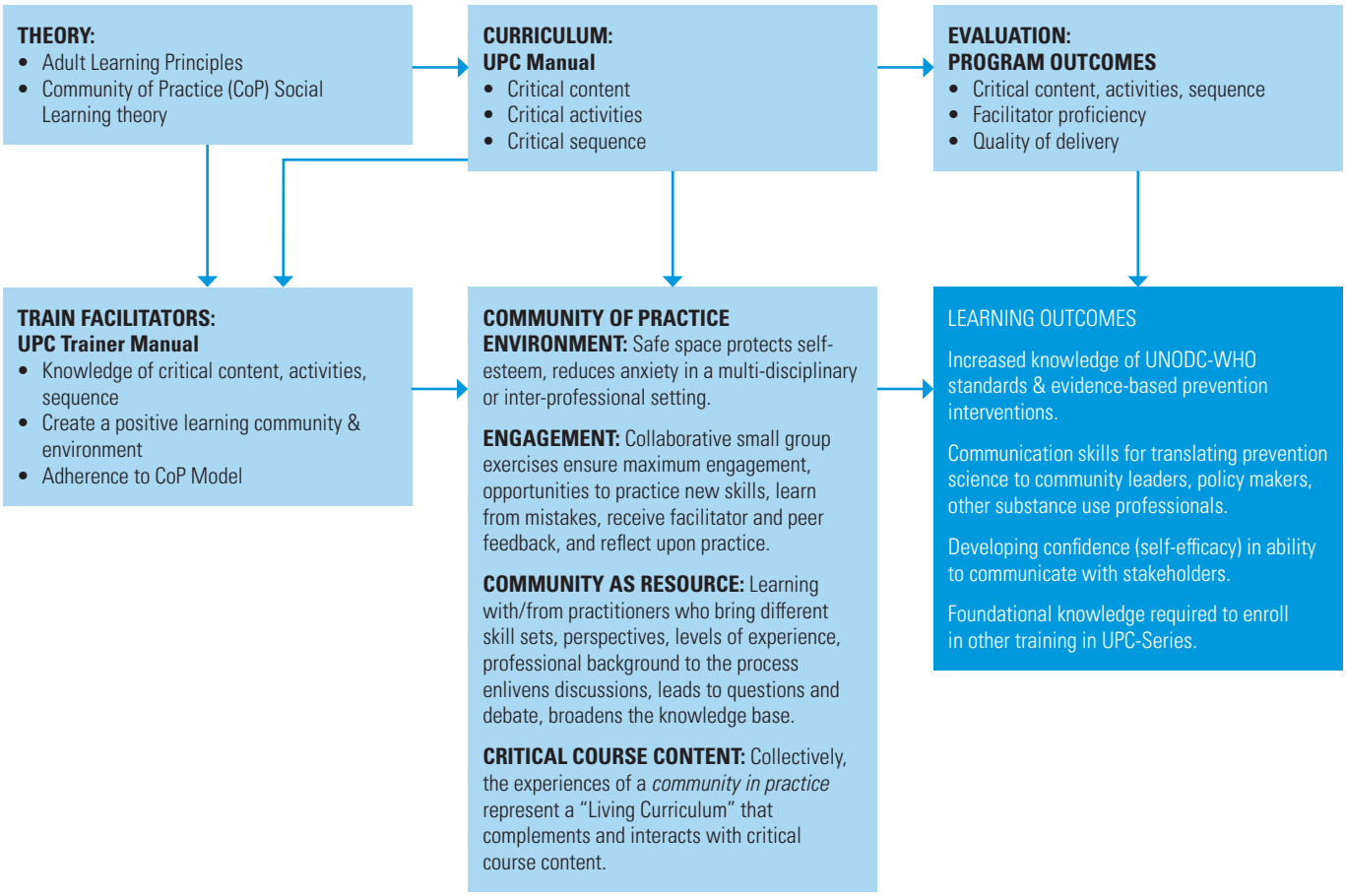
Practice: Participants valued the practical aspects of training. They commented on the value of an exercise in developing an intervention plan, exposure to international standards of prevention, and deep knowledge about what evidence-based substance use prevention really means. One participant summed it up this way: "The training has made me look more professional in evidence-based intervention." Other comments refer to the "use of language" and the "communication skills from the facilitators and from participant engagement." This is a significant learning outcome and highlights the importance of modeling. Participants need to develop communication skills to translate prevention science to their staff, decision-makers, community leaders, and the public.

Barriers: These few comments were outliers but deserve mention. Several participants expressed frustration with group interactions, noting that "some need skills of working as a group," and that some of the participants tended "to show more of their view." The latter reflects a common problem. In groups where there is not an equal mix of professionals and/or professional hierarchies are evident, one group can dominate (Oandasan & Reeves, 2005).

Theme 3: Social Validity

These comments highlight the practical, professional, and societal value of the training. Noting that the training was worthwhile, one practitioner added, "I am glad I am part of it." Similar comments included: "Thank you for the opportunity to participate;" "This is a good work I am super proud." As for the future, one person noted that the "well put together training" was "much needed for practitioners and is affordable." Several recommended that the training be implemented across all government agencies and should target "all the community leaders, faith-based organisations, and counsellors." To increase the

Figure 1 | CORE Training: essential components



Note: Adapted from Lave and Wenger (1991) and Ruiz-Primo (2006)

reach of the programme, several highlighted the need to recruit and train more trainers. One practitioner summed it up this way:

"Keep up this good work you are doing with this training as you are helping to provide solution to the problem of substance use in our country."

To sum this section up, *Figure 1* highlights connections between the UPC Professional Development model and other essential components of the implementation process. Wenger's social learning theory is evident in curriculum development in that it shapes the critical content (direct relevance, applied problem-based focus), critical activities (engagement, collaboration), and the developmental sequence of course modules. It is evident in the training of facilitators responsible for creating a supportive environment, delivering critical course content, and encouraging community members to share the wealth of knowledge and experiences they bring to the process. The resulting resources function as living curriculum that interacts with critical course content. Theory is evident in the evaluation process to the extent that it provides the rationale for the essential components of the training.

Theme 4: Adaptations

Training duration: According to the survey results, the time allocated for training was sufficient, but the mean for this item (4.03) was the lowest recorded. Clearly, time was an issue for some. One participant referred to "the long duration of each day activities" while another noted that it was "intensive and stressful." One participant summed it up this way: "The training is too exhausting and should be spread across more than six days."

Adaptation to context: While only a few comments were related to this category, they deserve mention. Some participants expressed the need for "practical examples from Nigeria", "local statistics and data", "real-life" case studies, and "evidence of local intervention success to buttress micro and macro" levels of prevention. Considering the widespread need for training on evidence-based prevention in Nigeria, accumulating relevant local examples will take time.

4 DISCUSSION

We report here the response of Global Initiative on Substance Abuse to the challenges of substance use in Nigeria through capacity building of practitioners using the Universal Prevention Curriculum. To our knowledge, this is the first study to report on the implementation of the UPC Core: Introduction to the Universal Prevention Curriculum Series for practitioners. It is also the first step toward socializing participants into the concept, values, ethics, and terminology of prevention science in Nigeria. Although many drug demand reduction practitioners in Nigeria hold academic credentials in health and social science fields, a needs analysis identified a lack of knowledge, skills, and competencies required to educate the public, provide evidence-based services, and conduct research (Obot, 2004). The implementation of the CORE Curriculum was undertaken as an important first step toward addressing these needs.

The outcome of this study demonstrated significant objective knowledge gains related to the effects of psychoactive substances, the science of evidence-based prevention and policy interventions, and knowledge, skills, and attitudes required of substance use prevention professionals. 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). Irrespective of their diverse professional background, the outcome of the study demonstrates the need for a common foundation for prevention practitioners. As a multidisciplinary area of work, prevention demand extensive knowledge and skills (Ostaszewski et al., 2018).

The facilitators, teaching methods, and collaborative nature of the CORE were highly rated, indicating that the UPC Training of Trainers was well-aligned 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 practitioners in this study represent a wide range of disciplinary backgrounds and work in varied professional environments and cultural contexts. They also represent a variety of states that are marked by diverse ethnic groups with different languages and traditions. That they all agreed upon the relevance of training to their work demonstrates the feasibility of implementing a standardized curriculum for practitioners across Nigeria. The quantitative and qualitative data provide support for the Community of Practice model (Wenger, 2010).

A high-quality, trained prevention workforce will promote the formulation of evidence-based substance use prevention policies, adapt or develop indigenous substance use prevention tools. It is our hope that improvement in the capacity of the prevention workforce with institutional support will, in time, stem the tragic tide of substance use in Nigeria and encourage other countries to evolve evidence-based prevention strategies through capacity building.

4.1 Limitations

Bias is inherent in subjective assessments of self-efficacy. In hindsight, another limitation is the lack of a central mechanism for following up with participants, which has implications for future training and monitoring the transfer of learning to practice. This is particularly important as participation was mainly based on personal interest and self-sponsorship. Without institutional, organisational support, the knowledge and skills acquired through the training will have little or no impact on practice.

Authors' contribution:
MA provided background information for the study. Provided the data and performed the statistical analysis. MA and NB designed the study, web search, literature review, interpretation of results and the discussion. NB designed the tables, proposed the thematic review and conclusion. MA and NB prepared the manuscript and approved the final version of the manuscript.

Declaration of interest:
No conflict of interest.

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REFERENCES

Adamson, T. A., Ogunlesi, A. O., Iufemi Morakinyo, O., Akinhanmi, A. O., Onifade, P. O., Erinosho, O., Adewuyi, A. A., Fasiku, D. A., Adebowale, T. O., Ogunwale, A., Somoye, E. B., & Olaniyan, O. L. (2015). Descriptive national survey of substance use in Nigeria. *Journal of Addiction Research & Therapy, 6,* 234. https://doi.org/10.4172/2155-6105.1000234

Alemika, E. E. (2013). Organized and transnational crime in West Africa. In H.-B.-Stiftung & R. Schönenberg (Eds.), *Transnational organized crime. Analyses of a global challenge to democracy* (pp. 127–144). Transcript Verlag.

Arora, S., Kalishman, S., Thornton, K., Dion, D., Murata, G., Deming, P., Parish, B., Brown, J., Komaromy, M., Colleran, K., Bankhurst, A., Katzman, J., Harkins, M., Curet, L., Cosgrove, E., & Pak, W. (2010). Expanding access to hepatitis C virus treatment—Extension for Community Healthcare Outcomes (ECHO) project: Disruptive innovation in specialty care. *Hepatology, 52*(3), 1124–1133. https://doi.org/10.1002/hep.23802

Arya, S., Delic, M., Ruiz, B. I. I., Klimas, J., Papanti, D., Stepanov, A., Cock, V., & Krupchanka, D. (2020). Closing the gap between training needs and training provision in addiction medicine. *BJPsych International, 17*(2), 37–39. https://doi.org/10.1192/bji.2019.27

Baldwin, C. D., Chandran, L., & Gusic, M. E. (2017). Building sustainable professional development programs: Applying strategies from implementation science to translate evidence into practice. *Journal of Continuing Education in the Health Professions, 37*(2), 106–115. https://doi.org/10.1097/CEH.0000000000000151

Barr, H. (2013). Toward a theoretical framework for interprofessional education. *Journal of Interprofessional Care, 27*(1), 4–9. https://doi.org/10.3109/13561820.2012.698328

Berta, W., Cranley, L., Dearing, J. W., Dogherty, E. J., Squires, J. E., & Estabrooks, C. A. (2015). Why (we think) facilitation works: Insights from organizational learning theory. *Implementation Science, 10*(1), 1–13. https://doi.org/10.1186/s13012-015-0323-0

Central Intelligence Agency. (2020). The world factbook. Nigeria. https://www.cia.gov/the-world-factbook/countries/nigeria/

Dombrowski, S. U., O'Carroll, R. E., & Williams, B. (2016). Form of delivery as a key 'active ingredient' in behaviour change interventions. *British Journal of Health Psychology, 21,* 733–740. https://doi.org/10.1111/bjhp.12203

Freeman, S., Wright, A., & Lindqvist, S. (2010). Facilitator training for educators involved in interprofessional learning. *Journal of Interprofessional Care, 24*(4), 375–385. https://doi.org/10.3109/13561820903373202

Gale, N. K., Heath, G., Cameron, E., Rashid, S., & Redwood, S. (2013). Using the framework method for the analysis of qualitative data in multi-disciplinary health research. *BMC Medical Research Methodology, 13*(1), 1–8. https://doi.org/10.1186/1471-2288-13-117

Hammick, M., Freeth, D., Koppel, I., Reeves, S., & Barr, H. (2007). A best evidence systematic review of interprofessional education: BEME Guide no. 9. *Medical Teacher, 29*(8), 735–751. https://doi.org/10.1080/01421590701682576

Lave J, & Wenger E. (1991). *Situated learning: Legitimate peripheral participation.* Cambridge university press.

Li, L. C., Grimshaw, J. M., Nielsen, C., Judd, M., Coyte, P. C., & Graham, I. D. (2009). Evolution of Wenger's concept of community of practice. *Implementation Science, 4*(1), 1–8. https://doi.org/10.1186/1748-5908-4-11

Moore, D. E. Jr, Green, J. S., & Gallis, H. A. (2009). Achieving desired results and improved outcomes: Integrating planning and assessment throughout learning activities. *Journal of Continuing Education in the Health Professions, 29*, 1–15. https://doi.org/10.1002/chp.20001

Miovský, M., Vondrová, A., Gabrhelík, R., Sloboda, Z., Libra, J., & Lososová, A. (2019). Incorporation of Universal Prevention Curriculum into established academic degree study programme: Qualitative process evaluation. *Central European journal of public health, 27*(Suppl.), S74–S82. https://doi.org/10.21101/cejph.a5952

Muzyk, A. J., Tew, C., Thomas-Fannin, A., Dayal, S., Maeda, R., Schramm-Sapyta, N., Andolsek, K. M., & Holmer, S. (2017). An interprofessional course on substance use disorders for health professions students. *Academic Medicine, 92*(12), 1704–1708. https://doi.org/10.1097/ACM.0000000000001766

National Drug Law Enforcement Agency. (2017). *Federal Republic of Nigeria. Annual Report.* NDLEA.

Nelson, E. U. E., Obot, I. S., & Umoh, O. O. (2017). Prioritizing public health responses in Nigerian drug control policy. *African Journal of Drug and Alcohol Studies, 16*(1), 49–57.

Oandasan, I., & Reeves, S. (2005). Key elements for interprofessional education. Part 1: The learner, the educator and the learning context. *Journal of Interprofessional Care, 19*(Suppl. 1), 21–38. https://doi.org/10.1080/13561820500083550

Obot, I. S. (2004). Responding to substance use problems in Nigeria: The role of civil society organizations. *Substance Use & Misuse, 39*(8), 1287–1299. https://doi.org/10.1081/ja-120038687

Ostaszewski, K. R., Ferić, M., Foxcroft, D. R., Košir, M., Kranželić, V., Mihić, J., Novak, M., Pisarska, A., & Talić, S. (2018). European prevention workforce competences and training needs. An exploratory study. *Adiktologie, 18*(1), 07–15.

Pope, C., Ziedland, S., & Mays, N. (2000). Qualitative research in health care: Analysing qualitative data. *BMJ, 320,* 7227, 114–116. https://doi.org/10.1136/bmj.320.7227.114

Salkind, N. J. (Ed.). (2010). *Encyclopedia of research design (Vol. 1).* Sage.

United Nations Office on Drugs and Crime. (2018). *Drug use in Nigeria 2018.* UNODC. https://www.unodc.org/documents/data-and-analysis/statistics/Drugs/Drug_Use_Survey_Nigeria_2019_BOOK.pdf

United Nations Office on Drugs and Crime. (2019). *World Drug Report 2018.* UNODC. https://www.unodc.org/wdr2018/

Vigna-Taglianti, F., Alesina, M., Damjanović, L., Mehanović, E., Akanidomo, I., Pwajok, J., Prichard, G., van der Kreeft, P., Virk, H. K., & Unplugged Nigeria Coordination Group. (2019). Knowledge, attitudes and behaviours on tobacco, alcohol and other drugs among Nigerian secondary school students: Differences by geopolitical zones. *Drug and Alcohol Review, 38*(6), 712–724. https://doi.org/10.1111/dar.12974

Wenger, E. (2010). Communities of practice and social learning systems: The career of a concept. In C. Blackmore (Ed.), *Social learning systems and communities of practice* (pp. 179–198). Springer.