Hybrid digital hybrid training approach for hormonal IUD in Nigeria

DATA DOCUMENTATION

1. Introduction

Globally, over 200 million women in low- and middle-income countries (LMICs) want to avoid or delay a pregnancy but are not using a modern contraceptive method. Expanding contraceptive access and choice can help address this gap. In 2021, the hormonal intrauterine device (IUD), a long-acting reversible contraceptive (LARC), was added for the first time to product catalogs for United Nations Population Fund (UNFPA) and U.S. Agency for International Development (USAID). Several countries in sub-Saharan Africa, including Nigeria, are now poised to scale-up the hormonal IUD as part of a full contraceptive method mix. To scale-up, family planning (FP) providers require training on high-quality counseling, insertion, and removal techniques, all in the context of supporting volunteerism and choice.

Traditionally, FP clinical trainings in Nigeria begin with a classroom-based didactic session consisting of lecture-style learning, followed by practice with pelvic models, overseen by trained clinical supervisors. Subsequently, providers complete a practicum providing services to clients, with continued support and guidance by clinical supervisors. However, the in-person components of clinical trainings tend to be resource intensive. Digital training models offer an alternative to in-person learning, with potential benefits of being cost-saving, as well as self-paced and completed at a trainee's convenience.

The Federal Ministry of Health (FMOH), donors, implementing partners, practitioners and policy makers in Nigeria have long been interested in exploring digital training approaches, but the COVID-19 pandemic further fueled the interest in use of digital technology. Data are limited, globally and in Nigeria, as to whether e-learning is an effective mechanism to improve knowledge and provider competency. Most of the available evidence on the use of digital technologies for provider training focused on post-training "refreshers" rather than new FP method introduction.

Objectives

In response to these needs, and in the context of scale up of hormonal IUD in Nigeria, the current study piloted an approach in which the didactic portion of FP clinical training was conducted via a digital platform. The study assessed feasibility, acceptability, and competency development of this alternative training model in the context of hormonal IUD scale up. Specific objectives are listed below:

1. To assess provider knowledge of hormonal IUD provision following completion of the hormonal IUD digital training, among select public sector and private sector family planning (FP) healthcare providers (HCPs)
    a. To assess provider knowledge of other FP methods following completion of the refresher module in the digital training course
2. To assess provider competency in provision of the hormonal IUD services following completion of the digital training course and practicum on hormonal IUD among public and private sector FP HCPs
3. To assess views of acceptability and quality of the digital training course on hormonal IUD among public and private sector FP HCPs and their clinical supervisors, and to explore potential opportunities to adapt the approach for other FP methods
4. To explore the feasibility of scale-up of the digital training course for hormonal IUD and potential implementation advantages, strengths, challenges, and barriers to further scaling in Nigeria

5. To estimate incremental direct costs of the digital training course for FP HCPs in Nigeria, stratified by public and private sector HCPs

2. Study design

The model assessed was a hybrid online and in-person training course for hormonal IUD for LARC-trained FP providers in Nigeria. Using this approach, the trainees completed didactic learning on hormonal IUD through a digital platform, after which they attended an in-person, one-day lab-based practicum, followed by supervised provision of hormonal IUD to clients.

The evaluation of this hybrid digital training model was conducted in Enugu, Kano, and Oyo states among public and private sector FP providers using a mixed-methods approach.

Intervention

The study team, comprising Society for Family Health (SFH) Nigeria, Population Services International (PSI), FHI 360 and the FMOH, developed the hybrid digital training approach which included e-learning modules for didactic training, lab-based practicum with competency assessment (Objective Structured Clinical Examination or OSCE), followed by supervised practicum with actual clients. The training model comprised 3 stages: 1) Digital didactic training over a period of two weeks, inclusive of a WhatsApp-based support group and one virtual question and answer session for all of the trainees (one session per state); 2) a one-day, in-person intensive practice on models (one per state); and 3) supervised provision of the hormonal IUD on a minimum of three clients at trainee's own health facility setting (Figure 1). After demonstrating competency providing hormonal IUD to three clients, providers were certified by the FMOH as a hormonal IUD provider. The digital training was conducted through the Kaya online platform, which is a global learning platform for the humanitarian sector.

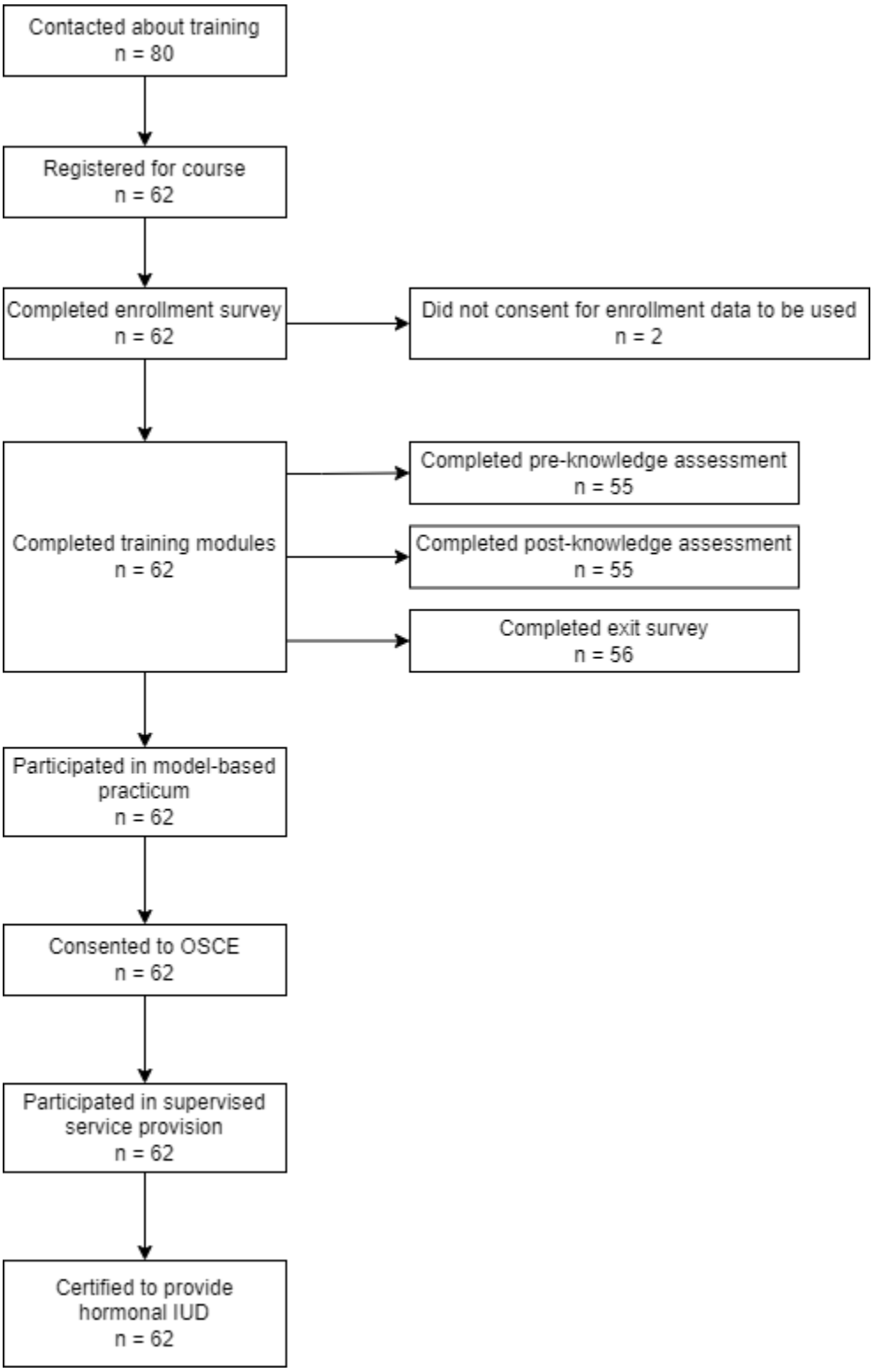
Data collection instruments

Research-related data was collected throughout this process. Here is a list of each data collection tool in the study:

Instrument name and description	Included in Dataverse?	Dataset name
Enrollment survey to collect provider demographic information	Yes	Enrollment survey
Pre- and post-training knowledge assessment administered before and after the digital training to assess provider knowledge	Yes	Exit survey
Quantitative **exit survey** to collect data on providers' experiences with the digital training	Yes	Pre and post training knowledge assessment
OSCE assessment administered after the practicum to assess provider knowledge	Yes	OSCE
IDIs with providers to collect data on their experience with the digital training	No[1]	N/A
IDIs with clinical supervisors to collect data on their experience with the digital training	No	N/A
KIIs with selected health stakeholders at state and national level and implementing partners to assess the feasibility, interest, and other considerations for scaling up the digital training approach	No	N/A

[1] Only quantitative data is included in the Dataverse. Qualitative guides, codebook, and informed consent forms will be included in the Dataverse but no qualitative data will be shared.

Figure 1: Study participants for study activities



Study population and sample size

The study was conducted between August-October 2021 among FP providers working in private and public sector health facilities in Enugu, Kano, and Oyo states of Nigeria. States were chosen in consultation with the state and FMOH based on presence of SFH franchise facilities; presence of public sector health facilities able to participate in training; and state MOH's interest in scaling up hormonal IUD. Providers were purposively selected for the training from SFH and public sector facilities based on being a LARC-trained provider and being willing to undertake the training.

The sample included both public and private sector health care providers. Due to the purposive nature of the participant selection, formal sample size calculations were not performed for this study. Providers were eligible to participate in the study if they were a healthcare provider who had delivered FP services in the last year, were previously trained on provision of non-hormonal IUD, had not already received training on the hormonal IUD, and consented to have their training results shared for study purposes. Providers who did not consent to one or more of the research activities were still able to enroll in the hybrid training (two health care providers did not consent to have their information used).

A subset of providers was also invited to participate in an in-depth interview (IDI) following the training. For the IDIs, two private sector and two public sector providers were selected per state. For the IDIs, two health care providers with low and two with high post-training knowledge assessment score were included in each state.

Each clinical supervisor involved in the hormonal IUD practicums was requested to participate in an IDI. We also conducted key informant interviews (KIIs) with selected stakeholders at state and national level. Key informants were eligible for the study if they were a representative of state or federal health authorities, or implementing partners involved in the design, planning, and implementation of the hybrid training, or who would be involved in potential further scaling of the training and consented to a KII.

3. Data collection

The digital training was conducted in August and September 2021. The enrollment survey, pre- and post-training knowledge assessments, and exit survey were all administered through the Kaya digital training platform. The OSCE assessments were conducted in person and participants were evaluated using by a trained clinical supervisor. Scores were collected on tablets through a programmed survey using Kobo Collect. Practicums and OSCE assessments were completed in October 2021. IDIs and KIIs were conducted in English and over the phone in November and December 2021. Interviews were audio-recorded and transcribed.

4. Data management

Data from the enrollment survey, pre- and post-training knowledge assessments, and the exit survey were all downloaded from the Kaya digital training platform by SFH staff to protect participants' identities. SFH assigned a unique ID for each participant. That unique ID connects data from a single provider across all data collection instruments. Data were then shared with the research team. Data were cleaned in Stata version 17.

Missing data

All datasets can be merged 1:1 using the unique ID, but there are missing responses for various data collection forms, as all study surveys and assessments were voluntary, and completion of each step was not required to participate in future study activities.

Variable Naming Conventions

Variables correspond with the numbers in the data collection forms. Prefixes were added to differentiate variables when data from all sources were merged. For the OSCE data, 2 prefixes were used: osce for all the data and a prefix for each assessment section (counseling, insertion, and removal). Steps that were required to pass the OSCE are indicated with the suffix "_r". The prefixes and suffixes for all datasets are listed below:

Survey	**Prefix/suffix**
Enrollment survey	en_
Pre-training assessment	pre_
Post-training assessment	post_
Exit survey	ex_
OSCE assessment	osce_
Counseling section	osce_c_
Insertion section	osce_i_
Removal section	osce_r_
Required steps	*_r

5. Definition of variables and calculations

Unique identifiers

uid (continuous) uid is the participant identification number

Definition of key calculations and outcomes

Pre- and Post-training knowledge assessments

The pre- and post-training assessments were the same test. The test consisted of 44 questions and included multiple choice, select multiple, and true/false questions. The Kaya digital training platform assigned a score for each question. Each question was worth 2.2725 points for a total of 100 points. For select multiple questions, participants got partial credit for select some but not all of the correct response options. Therefore, the potential scores for each question ranged from 0-2.2725. The dataset generated from the Kaya digital training platform contains only scores and not the actual responses.

Participants were allowed to take the pre-training knowledge assessment once and the post-training knowledge assessment multiple times. We used their highest score post-training assessment score. Pre- and post-training assessment data were merged using the unique ID. Only data from participants with both a pre- and post-training assessment score were included for analysis.

OSCE

Each step was either classified as pass (1) or fail (0). There were no missing data. Steps were summed and divided by the total number of steps (76) to get an overall score. The steps were also divided into three categories (counseling, insertion, and removal) and the same procedure was followed to create a score per category. Some steps are classified as "required", per the FMOH's guidance.

6. LIMITATIONS

This study was relatively small, enrolled health care providers who were purposively selected, and included only three states in Nigeria, limiting generalizability to the study sample. However, the scale of the study matches other studies in the literature around hybrid digital training approaches, which generally present small pilot projects with limited exploration of intervention effectiveness. The health care providers trained were experienced in provision of non-hormonal IUD, and digital training approaches may be significantly different for providers not experienced in or trained on non-hormonal IUD. Additionally, our ability to draw conclusions about potential cost savings is limited by not having a comparison group, and our considering only direct training costs. Despite these limitations, we feel that the study provides initial evidence for the potential success in application of the digital training approach for hormonal IUD in Nigeria.