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Brief Report

Virtual Skills Training Format for Teaching Intrauterine Contraception Insertion During Coronavirus Disease 2019

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A B S T R A C T

The coronavirus disease 2019 pandemic resulted in the curtailment of face-to-face clinical skills training in 2020. To meet Title X workforce needs, the National Clinical Training Center for Family Planning transitioned onsite intrauterine contraception training to a virtual format using online didactic material and livestreamed training and telementoring. Videos demonstrated the placement and removal of intrauterine contraceptives, and all necessary supplies were shipped directly to participants. Attendees reported a high level of skill uptake and impact on their practice. This pilot study suggests that virtual skills training is suitable for providers unable to travel to in-person events.

The National Clinical Training Center for Family Planning (NCTCFP) has been successfully providing intrauterine contraception (IUC) training since 2008. The coronavirus disease 2019 (COVID-19) pandemic impacted and changed the way health care providers receive continuing education, master new skills, and obtain professional development. Academic institutions and continuing education organizations have adapted to new teaching and learning strategies and transitioned current practices to virtual formats while ensuring quality training and technical assistance are delivered. The pandemic compelled clinical trainers to focus on the innovative use of digital hyperconnectivity as a tool to solve problems and enhance delivery.

Early in the pandemic, clinical training was curtailed because of social distancing.[1] One of the significant and ongoing training needs for new and less experienced clinicians providing contraceptive services is learning to place intrauterine contraceptives. Because of clinician turnover and organizational desires to expand access to highly effective methods, it is important to offer this skill-building training frequently. Long-acting reversible contraception, including IUC, is more effective and cost-effective in preventing unintended pregnancies than most other contraceptive methods.[2] Suspending IUC training was not an option because it could mean loss of access to IUC for consumers and less than optimal training for sexual and reproductive health organizations and clinicians. The pandemic pushed training organizations to explore new strategies to deliver this training.

To address barriers to on-site training, the NCTCFP implemented virtual intrauterine contraception (VIUC) training. The blended training design used online didactic coursework, detailed training videos, livestreamed demonstrations, and telementoring.[3,4] The original on-site training was guided by Kolb's experiential learning theory,[5] and the virtual training coupled Kolb's theory with the behaviorist learning theory6,7 to facilitate psychomotor skill acquisition through concrete experience, personal reflection, and stepped repetition of activities to reinforce learning and prompt behavior change.[6,7] The VIUC provides the same content as on-site training, which NCTCFP has been successfully providing since 2008. Over 15 years, the didactic and skill-building content has been evaluated by hundreds of "in-person" clinician attendees and at least 10 experienced clinicians/trainers who deliver the content. The change in modality required minor changes to the sequence and flow of the content but no substantive revisions to the well-tested and evidence-based content, which is reviewed at least annually, or when there were changes in national standards or the availability of intrauterine devices. Once the new virtual training package was complete, the modified materials were reviewed by 2 clinicians/trainers (subject matter experts) for validity. The first training, which we considered a "beta test," was limited to a small group of 16 participants in October 2020. Feedback from participants was elicited during the training itself and formal posttraining evaluations of the content and the online platform were reviewed by the training staff. Improvements were made to the shipping process and the instructions needed to properly set up and use the pelvic models.

Materials and Methods

Curriculum

The VIUC sessions provided the same content as on-site training. To deliver the training, NCTCFP purchased high-quality pelvic models, disposable IUC instruments, and high-resolution video

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Table 1
Immediate Postevent Measures of Satisfaction (N = 71)

Measure	n (%)
How would you rate this educational activity overall?	
Excellent	47 (66.2)
Good	19 (26.8)
Average	4 (5.6)
Below average	1 (1.4)
Poor	0 (0)
I acquired new skills in the training	
Strongly agree	57 (80.3)
Agree	19 (26.8)
Neither agree nor disagree	1 (1.4)
Disagree	0 (0)
Strongly disagree	1 (1.4)
The training delivery method was appropriate	
Strongly agree	50 (70.4)
Agree	14 (19.7)
Neither agree nor disagree	4 (5.6)
Disagree	2 (2.8)
Strongly disagree	1 (1.4)
This training will help me perform better in my job	
Strongly agree	53 (74.7)
Agree	16 (22.5)
Neither agree nor disagree	1 (1.4)
Disagree	0 (0)
Strongly disagree	1 (1.4)

recording equipment. IUC training kits were provided by the manufacturers of the devices. The lead trainer recorded detailed videos with a pelvic model to demonstrate correct placement and removal for levonorgestrel and copper IUCs. Pelvic models, IUC training kits, disposable instruments, and USB drives containing supplementary resources were shipped to participants. Consistent with the aforementioned theories, participants first completed a self-paced 90-minute online didactic course outlining IUC provision. Didactic information included IUC mechanisms of action, variations in size and diameter, major side effects, years of effectiveness, and step-by-step instructions (with graphic illustrations) of the skills needed for placement and removal. During the subsequent virtual training, prerecorded demonstration videos were shown while the trainer narrated them in real time. Learners had close visualization of the trainer's hands as instruments and devices were prepared and IUC placement and removal were performed. The trainer was able to observe learners' skills during the training, and learners were invited to do an optional competency check after training. Participants returned pelvic models using the return label provided. They kept the IUC training kits, disposable instruments, and USB drive. The Institutional Review Board at the University of Missouri–Kansas City provided approval for this pilot study.

Participants

Recruitment for virtual training followed the same format as live training events. Training alerts were sent to our database of approximately 12,000 clinicians, and the events were posted on our website and advertised in our monthly newsletter. Interest was high, with most VIUC events amassing waiting lists. The NCTCFP delivered its first VIUC training in October 2020 to 16 attendees, and from March through July 2021, a pilot study was conducted to assess practice change and learner satisfaction.

Evaluation

Immediately after training, evaluation surveys were distributed online to measure impact and learner satisfaction. Eight-week follow-up surveys assessing satisfaction and practice change were also distributed.

Results

A total of 134 participants completed the VIUC training. Seventy-one participants (53.0%) completed the immediate posttraining evaluation and consented to sharing their responses for the purpose of our analysis. For the 8-week posttraining surveys, 25 (35.2%) participants responded and consented to sharing their responses. Most participants reported an uptake of new skills and were highly satisfied with the training immediately postevent (Table 1). More importantly, at 8 weeks posttraining, 10 participants (40.0%) reported having placed 31 intrauterine contraceptives and removed 30 intrauterine contraceptives between themselves in the past month. Seventeen respondents (68.0%) reported impacts on their practice. The 25 (100%) participants who responded to the follow-up survey indicated continued high satisfaction. Nurse practitioners (72%) performed the majority of IUC removals compared with other health care provider groups, and those working in a community health center/federally qualified health center completed most IUC removals compared with providers who worked in a noncommunity health center/federally qualified center. Further study results can be found in Tables 1, 2, 3, and 4.

Discussion

Virtual clinical training has been successfully implemented during the pandemic.[8-10] These preliminary findings suggest that holding the training in a virtual setting during the pandemic ensured that clinicians and ultimately their clients continued to have access to long-acting reversible contraception methods. The major clinical implication of this pilot study is that clinical skills training can be successfully achieved through self-paced didactics, livestreamed instructor-led training, and telementoring. This type of innovative training design could serve as a model to create other durable programs adaptable to a variety of situations, ensuring that essential clinical training continues when in-person gathering is not feasible. Looking beyond the pandemic, virtual training can provide clinicians who have less access to onsite training (rural areas, time constraints, inability to travel, etc) the opportunity to learn new skills and enhance practice.

Table 2
Eight-Week Postevent Measures of Satisfaction and Impact (N = 25)

Measure	n (%)
Thinking back on the LARC training you received, how would you rate the training overall?	
Excellent	19 (76.0)
Good	5 (20.0)
Average	1 (4.0)
Below Average	0 (0)
Poor	0 (0)
Please indicate if any of the following have happened because of your participation in this virtual IUD workshop.	
The place I work has started offering IUDs as a new service.	6 (24.0)
The place I work has seen improved patient outcomes related to IUDs.	5 (20.0)
The place I work has improved workflow regarding IUDs.	5 (20.0)
Other impact	7 (28.0)
Total participants who reported an impact as a result of their participation in the virtual IUD workshop.	17 (68.0)
Total IUDs placed in the past month (reported by 9 participants)	31
Total IUDs removed in the past month (reported by 10 participants)	30

IUD = intrauterine device.

Table 3
Crosstabulation of Intrauterine Contraceptive (IUC) Insertions and Provider Type and Clinic Type (N = 25)

	IUCs Placed in the Past Month						
Provider Type	0	1	3	5	6	10	Total
MD	2	0	0	0	0	0	2
NP	10	4	1	1	1	1	18
CNM	1	0	0	0	0	0	1
PA	2	0	1	0	0	0	3
Missing	1	0	0	0	0	0	1
Total	16	4	2	1	1	1	25

	IUCs Placed in the Past Month						
Setting	0	1	3	5	6	10	Total
Community health center/federally qualified health center	7	2	0	1	0	0	10
Federal government	2	0	0	0	0	0	2
Freestanding family planning organization	1	0	0	0	0	0	1
Health department (state, county, or local)	1	2	1	0	0	1	5
Hospital based	2	0	0	0	0	0	2
University or school based	1	0	0	0	0	0	1
Private practice	0	0	1	0	1	0	2
Other, describe: rural health care clinic	1	0	0	0	0	0	1
Missing	1	0	0	0	0	0	1
Total	16	4	2	1	1	1	25

CNM = certified nurse-midwife; NP = nurse practitioner; PA = physician assistant.

Table 4
Crosstabulation of Intrauterine Contraceptive (IUC) Removals and Provider Type and Clinic Type (N = 25)

	IUCs Removed in the Past Month						
Provider Type	0	1	2	3	4	8	Total
MD	2	0	0	0	0	0	2
NP	9	2	2	2	2	1	18
CNM	1	0	0	0	0	0	1
PA	2	0	1	0	0	0	3
Missing	1	0	0	0	0	0	1
Total	15	2	3	2	2	1	25

	IUCs Removed in the Past Month						
Setting	0	1	2	3	4	8	Total
Community health center/federally qualified health center	5	2	2	1	0	0	10
Federal government	2	0	0	0	0	0	2
Freestanding family planning organization	1	0	0	0	0	0	1
Health department (state, county, or local)	2	0	0	1	2	0	5
Hospital based	2	0	0	0	0	0	2
University or school based	1	0	0	0	0	0	1
Private practice	0	0	1	0	0	1	2
Other, describe: rural health care clinic	1	0	0	0	0	0	1
Missing	1	0	0	0	0	0	1
Total	15	2	3	2	2	1	25

CNM = certified nurse-midwife; NP = nurse practitioner; PA = physician assistant.

Although these pilot data are limited and not specific to the type of clinical facility, this study demonstrates the need for ongoing data collection to show long-term satisfaction and the impact of the training on the participants' practice. Although a limitation of the pilot was the small sample size, the responses still demonstrate high respondent satisfaction and practice change after the training. More importantly, this pilot study shows that the format of the training was well received and that the content needed to adopt a new skill was successful. Self-paced online didactic material, virtual didactic review, clarification with an expert, and virtual "real-time" skills training with practice models and instruments offer the operationalization of the experiential learning method in a unique format, facilitating the adult learner's success.

Despite reporting high satisfaction with the virtual training, some participants reported no IUC placements or removals at 8 weeks posttraining and an inability to sustain confidence or skills. These participants primarily cited external concerns, such as a clinic closing or working remotely because of COVID-91. Our future study will examine these barriers and make targeted improvements to our training program, perhaps adding a longitudinal technical assistance component.

Conclusion

NCTCFP successfully converted well-established onsite IUC training into a virtual format to meet the needs of clinicians and sexual and reproductive health organizations during the pandemic. By grounding the virtual training in experiential and behaviorist learning theories, participants learned psychomotor skills for IUC placement and removal. Participants reported skill acquisition, change in practice, and high satisfaction. The 8-week follow-up evaluation data are not robust because of limited responses. For this reason, new approaches to increase participation will be implemented in the future. Participation will be incentivized via continuing education credit or case study analysis to gather sufficient and meaningful data to assess the training. Furthermore, we realize that longitudinal data collection is needed to assess long-term impact of the virtual IUC training. Hence, adapting traditional onsite training to a virtual format may offer more opportunities for clinicians with limited access to onsite training and may ultimately forge the future of clinical skills training.

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