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Contraceptive method preference and reasons for contraceptive discontinuation among women randomized to intramuscular depot medroxyprogesterone acetate, a copper intrauterine device or a levonorgestrel implant: Findings from Durban, South Africa☆,☆☆,☆☆☆

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ABSTRACT

Objectives: The use of intrauterine devices (IUDs) and contraceptive implants in South Africa is low with limited data on patterns of use and reasons for discontinuation. We describe contraceptive preferences and reasons for discontinuation among women enrolled in the Evidence for Contraceptive Options and HIV Outcomes (ECHO) Trial from one trial site.

Study design: ECHO, conducted between 2015 and 2018, enrolled and randomized sexually active women, aged 16 to 35, and desiring contraception, to intramuscular depot medroxyprogesterone acetate (DMPA-IM), a copper intrauterine device (copper-IUD) or a levonorgestrel (LNG) implant; follow-up was 12 to 18 months. We interviewed 829 women at the Durban, South Africa trial site at ECHO Trial exit to ascertain contraceptive preferences at randomization. Reasons for randomized contraceptive discontinuation were collected at ECHO Trial exit and 6 months later. Data were analyzed descriptively.

Results: At the final ECHO Trial visit, among women using their randomized contraceptive method (n = 757), 21% discontinued DMPA-IM, 20% discontinued LNG implant and 22% discontinued the copper-IUD. About a quarter from each group discontinued due to problems with bleeding. Among women continuing their randomized contraceptive at trial exit (n = 597), 25% discontinued DMPA-IM within 6 months of exiting the study, 8% discontinued LNG implant and 4% discontinued copper-IUD. A third of women reported wanting to be assigned DMPA-IM at randomization, 20% wanted the LNG implant and 18% the copper-IUD.

Conclusions: Despite some women having preferences about which contraceptive they might be randomized to, discontinuation rates for all three methods at ECHO Trial exit and 6-month post-trial follow-up were low.

Implications: Despite limited prior use of IUDs and implants among women enrolled in this study, and a desire by some women to not receive these methods at randomization, discontinuation rates remained low. The provision of quality contraceptive counselling and support may increase uptake and continued use of implants and IUDs.

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☆☆☆*Data Availability Statement*: Access to data from the ECHO Study may be requested through submission of a research concept to icrc@uw.edu. The concept must include the research question, data requested, analytic methods, and steps taken to ensure ethical use of the data. Access will be granted if the concept is evaluated to have scientific merit and if sufficient data protections are in place. As of the time of publication, data access applications are in process with the governing institutional review boards of the ECHO Study to make de-identified data publicly available.

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1. Introduction

The national contraceptive guidelines in South Africa were revised in 2012 to include the introduction of the single-rod progesterone implant and increased access to the copper intrauterine device (copper-IUD) as part of an "expanded method mix" [1]. Findings from the 2018/2019 District Health Barometer indicate that there was a steady increase the number of etonogestrel (ENG) implants and IUDs (any) dispensed from the previous year (37% for the IUD and 63% for the ENG implant), however actual numbers inserted were still low—51,334 for the IUD and 213,260 for the ENG implant [2]. According to the 2016 Demographic and Health Survey in South Africa (SADHS), the contraceptive prevalence rate among sexually active women was 60%, with nearly all these women using a modern contraceptive obtained predominantly from the public sector [3]. The most common methods used were injectables (intramuscular depot medroxyprogesterone acetate (DMPA-IM) and Nur-Isterate (Net-En)) (25%) and male condoms (16%), with fewer women using ENG implants (4%) and IUD (1%). Currently, in the public sector in South Africa, women have access, at no cost, to condoms (male and female), progestogen-only injectables, ENG implants, oral contraceptives (OCs), IUDs (predominantly copper-IUD), emergency contraception, and male and female sterilization [3].

Data from DHS surveys indicate that 38% of women discontinue reversible methods by 1 year, with the lowest discontinuation among IUD users (13%) [4]. In the 2016 SADHS survey, 1-year discontinuation rates ranged from 31% for DMPA-IM to 13% for ENG implants and was 29% for all methods [3]. Method-related reasons accounted for most discontinuations, which included side-effects, health concerns, medical advice, problems of access and availability, desire to switch to a permanent method, and inconvenience of use and cost. This was followed by a desire to become pregnant. Studies in South Africa have found reasons for early removal of ENG implants were mainly side effects, predominantly bleeding and headaches [5–7]. While levonorgestrel (LNG) implants (Jadelle) are registered for use in South Africa [8], these are not available in the public sector. A South African study where women were randomized to either an injectable contraceptive (DMPA or Net-En) or the copper-IUD found discontinuation rates at a median follow-up of 20 months was 16.5% for the copper-IUD and 14.7% for the injectable [9]. Common reasons for copper-IUD discontinuation were expulsion and abdominal pain/backache. In both groups, several women discontinued due to wanting to conceive or getting married.

We conducted an ancillary study in the Evidence for Contraceptive Options and HIV Outcomes (ECHO) Trial [10]. ECHO was an open-label randomized clinical trial conducted from 2015 to 2018 at 12 sites in Africa (Eswatini, Kenya, South Africa, and Zambia) to evaluate HIV incidence among women randomized to different contraceptive methods. Both retention and randomized contraceptive method continuation during the ECHO Trial were high (>90%). In this ancillary study, we describe the frequency of, and reasons for, randomized contraceptive discontinuation at ECHO Trial exit and 6 months later among women enrolled at one ECHO Trial site (Durban, South Africa). We also explore contraceptive methods women hoped to receive, or not receive, at randomization.

2. Materials and methods

ECHO Trial overview and procedures. HIV-uninfected, sexually active women aged 16 to 35 years, desiring contraception, and willing to be randomized to either DMPA-IM, a copper-IUD or LNG implant were enrolled and followed for 12 to 18 months. The primary ECHO Trial outcome was HIV incidence. Detailed ECHO Trial procedures have been published [10].

Women in the ECHO Trial received prerandomization contraceptive counselling to understand the study contraceptive methods and make an informed decision about whether they were willing to be randomized to any of the 3 study contraceptives. To be eligible, women had to be willing to receive, and not have any contraindications to any of the 3 contraceptives. At enrolment, women were randomized to one of the three study methods and received method-specific postrandomization counselling. Contraceptive methods were administered thereafter by trained study staff. Women were supported to continue using their randomized contraceptive method throughout the trial through quality contraceptive counselling, prompt management of side effects and addressing any concerns and myths about the methods.

During the course of the study, women could discontinue their randomized method at any time and choose to use another contraceptive method or no method. Women who experienced copper-IUD expulsion could have their copper-IUD reinserted if desired, and multiple reinsertions were permitted. Contraceptive methods were also discontinued if required for participant safety or clinical reasons. Women who chose to discontinue their randomized contraceptive method were retained in the trial. At the final ECHO Trial visit, all women were given the option of remaining on their current contraceptive method or switching to another method or no method. Women desiring another study contraceptive were provided with this method by trial staff and women desiring a nonstudy contraceptive were referred to local health facilities. Copper-IUDs and LNG implants were removed by trial staff if women requested removal. Women were referred to local health facilities for ongoing contraceptive care at the final visit.

Ancillary study procedures. This ancillary study was conducted at the Durban, South Africa trial site from July 2017 to April 2019. All women attending their final ECHO Trial visit were invited to participate and completed an interviewer-administered questionnaire (in English or IsiZulu) that explored contraceptive method preferences at randomization, contraceptive choice at the final ECHO Trial visit, and reasons for contraceptive method discontinuation at the final ECHO Trial visit (if applicable). Reasons for contraceptive discontinuation prior to the final ECHO Trial visit were not included in this analysis. Reasons for refusal to participate in the ancillary study were not collected. We contacted participating women by telephone approximately 6 months post-trial exit to explore contraceptive method use, changes in contraceptive method since study exit, and reasons for method discontinuation.

For this analysis, reasons for contraceptive discontinuation and contraceptive choice following discontinuation (at ECHO Trial exit and 6-month post-trial follow-up) are described among women who discontinued their randomized contraceptive. Reasons for discontinuation were collected using closed-ended questions, and an additional category "other reason not otherwise specified" to include responses that were not specified on the questionnaire. Data were collected electronically using the REDCap electronic data capture tools hosted at the University of the Witwatersrand [11]. Data collected during the ECHO Trial at baseline such as demographics, contraceptive history, and parity were also used.

Data analysis. We conducted a descriptive analysis using Stata version 14.0. Odds ratios were used to describe the association between method preference at randomization and randomized method continuation at the final ECHO Trial visit among women who were still using their randomized contraceptive method at the final ECHO Trial visit.

Ethics approval. Local research ethics committees (RECs) for each of the study sites, the FHI 360 Protection of Human Subjects Committee and the WHO ethics committee approved the ECHO Trial (ClinicalTrials.gov, number NCT02550067). Additional written informed consent was obtained for the ancillary study, and ap-

Table 1
Baseline participant characteristics among women enrolled in the ECHO Trial in Durban, South Africa, 2015 to 2019[a]

Characteristic	Randomized contraceptive group n (%)			Total n (%) (n = 829)
	DMPA-IM n = 275	LNG implant n = 282	Copper-IUD n = 272	
Age				
18–20	20 (7)	44 (16)	34 (13)	98 (12)
21–24	136 (49)	129 (46)	119 (44)	384 (46)
25–30	93 (34)	85 (30)	95 (35)	273 (33)
>30	26 (9)	24 (9)	24 (9)	74 (9)
Number of pregnancies				
0	63 (23)	56 (20)	61 (22)	180 (22)
1	123 (45)	135 (48)	112 (41)	370 (45)
≥2	89 (32)	91 (32)	99 (36)	279 (34)
Number of living children				
0	75 (27)	71 (25)	74 (27)	220 (27)
1	135 (49)	140 (50)	131 (48)	406 (49)
≥2	65 (24)	71 (25)	67 (25)	203 (24)
Contraceptive methods ever used, prior to study participation[b]				
None	1 (<1)	1 (<1)	1 (<1)	3 (<1)
DMPA-IM	157 (57)	167 (59)	160 (59)	484 (58)
Net-En	57 (21)	50 (18)	53 (19)	160 (19)
Implant (Any)	11 (4)	12 (4)	5 (2)	28 (3)
IUD (Any)	2 (1)	3 (1)	2 (1)	7 (1)
Oral contraceptives	24 (9)	24 (9)	33 (12)	81 (10)
Male / Female condoms	246 (89)	261 (93)	243 (89)	750 (90)
Natural methods, e.g., withdrawal	88 (32)	102 (36)	86 (32)	276 (33)
Diaphragm / sponge	0 (0)	1 (<1)	0 (0)	1 (<1)
Emergency contraception	18 (6)	21 (7)	11 (4)	50 (6)

[a] This was a substudy of the ECHO Trial.
[b] Multiple responses allowed.

Table 2
Randomized contraceptive method and contraceptive method in use at the final ECHO Trial visit in Durban, South Africa, 2015 to 2019[a]

Contraceptive method in use at final ECHO Trial visit	Randomized contraceptive method n (%)			Total (n = 829) n (%)
	DMPA-IM (n = 275)	LNG implant (n = 282)	Copper-IUD (n = 272)	
DMPA-IM	**252 (92)**	9 (3)	19 (7)	280 (34)
LNG implant	1 (<1)	**265 (94)**	4 (1)	270 (33)
Copper-IUD	2 (1)	1 (<1)	**240 (88)**	243 (29)
None	13 (5)	6 (2)	6 (2)	25 (3)
Other	7 (3)	1 (<1)	3 (1)	11 (1)

Bold values indicate women who were using their randomized study contraceptive at the final ECHO Trial visit.
[a] This was a substudy of the ECHO Trial.

proval from the University of Witwatersrand Human REC (Reference: 141112).

3. Results

Of the 861 women enrolled at the Durban, South Africa ECHO Trial site, 829 (96%) consented to participate in the ancillary study. The median age was 24 (IQR: 22–27). Almost a quarter were nulliparous (Table 1). Upon trial entry, while only three women had never used a contraceptive previously; most had used condoms (90%) and more than three-quarters (78%) had used injectable contraceptives. Prior use of the implant and IUD was 3% and 1%, respectively. Of the 829 women, 627 (76%) had 18 months of follow-up, 116 (14%) had 15 months, 84 (10%) had 12 months, and 2 (<1%) exited early at 9 months. At the final ECHO Trial visit, most women were still using their randomized study contraceptive (Table 2).

Among women randomized to DMPA-IM, 54 (21%) opted not to receive another injection at their final ECHO Trial visit; for the LNG implant, 53 (20%) women discontinued, and for copper-IUD, 53 (22%) women discontinued (Fig. 1). Adverse events were the most frequent reason for method discontinuation among all three groups, with about a quarter of the women from each contraceptive group reporting problematic bleeding as a reason for discontinuation (Table 3). Among women who discontinued their randomized contraceptive due to adverse events (n = 77), 59 (77%) reported that the adverse event was present at the final ECHO Trial visit, and 58 (75%) women said the duration of the adverse event was greater than 6 months. Among all women who discontinued at the final ECHO Trial visit (n = 160), the most frequent method switch was to DMPA-IM (26%) or no method (25%) (Table 4). Half of the women who discontinued DMPA-IM elected to use either copper-IUD or LNG implant. Among women who discontinued the copper-IUD and LNG implant, the most frequent switch was to DMPA-IM.

Among women who continued their randomized study contraceptive at the final ECHO Trial visit, 49 (25%) discontinued DMPA-IM within 6 months of exiting the study, 16 (8%) discontinued LNG implant and 7 (4%) discontinued copper-IUD (Fig. 1). Over a quarter of women (13 of 49, 27%), who discontinued DMPA-IM after exiting the study reported that they discontinued because DMPA-IM was out of stock at local clinics (Table 3). For the LNG implant and copper-IUD, discontinuation post-trial exit was most frequently due to problems with bleeding. Over half of all women who discontinued their randomized contraceptive post-trial exit chose to use no method (58%) and about a quarter switched to male condoms alone (Table 4). For DMPA-IM users that discontin-

Table 3
Reasons for discontinuing randomized contraceptive method at the final ECHO Trial visit and 6-month post-trial exit follow-up in Durban, South Africa, 2015 to 2019[a]

Reasons for randomized method discontinuation[b]	Final ECHO Trial visit				6-month post-trial exit follow-up			
	Discontinued randomized contraceptive method n (%)			Total n = 160 *n* (%)	Discontinued randomized contraceptive method n (%)			Total n = 72 *n* (%)
	DMPA-IM n = 54	LNG implant n = 53	Copper-IUD n = 53		DMPA-IM n = 49	LNG implant n = 16	Copper-IUD n = 7	
Desire to conceive	2 (4)	5 (9)	9 (17)	16 (10)	4 (8)	0	1 (4)	5 (7)
Partner wants me to conceive	0	3 (6)	1 (2)	4 (3)	1 (2)	0	1 (14)	2 (3)
No partner currently	3 (6)	1 (2)	4 (8)	8 (5)	7 (14)	0	0	7 (10)
Adverse events								
Amenorrhea	3 (6)	1(2)	0	4 (3)	6 (12)	1 (6)	0	7 (10)
Problems with bleeding	14 (26)	15 (28)	13 (25)	42 (26)	4 (8)	7 (44)	3 (43)	14 (19)
Loss of Libido	2 (4)	1 (2)	0	3 (2)	0	0	0	0
Weight gain	6 (11)	3 (6)	1 (2)	10 (6)	0	3 (19)	0	3 (4)
Headaches	0	3 (6)	0	3 (2)	0	1 (6)	0	1 (1)
Vaginal wetness	0	1 (2)	0	1 (1)	0	0	0	0
Weight loss	0	3 (6)	0	3 (2)	0	1 (6)	0	1 (1)
Menstrual cramps	0	0	4 (8)	4 (3)	0	1 (6)	0	1 (1)
Lower abdominal pain	0	0	1 (2)	1 (1)	0	1 (6)	2 (29)	3 (4)
Pain / numbness in arm	0	1 (2)	N/A	1 (1)	0	0	N/A	0
Other	0	3 (6)	2 (4)	5 (3)	2 (4)	0	0	2 (3)
Desire for another method	15 (28)	3 (6)	9 (17)	27 (17)	2 (4)	0	0	2 (3)
Desires a break from current contraceptive	7 (13)	5 (9)	6 (11)	18 (11)	4 (8)	0	0	4 (6)
Pregnant	3 (6)	1 (2)	0	4 (3)	0	1 (6)	0	1 (1)
Partner wants discontinuation for another reason	0	1 (2)	2 (4)	3 (2)	0	0	0	0
Family member wants discontinuation	0	1 (2)	0	1 (1)	0	0	0	0
No privacy with method	N/A	1 (2)	0	1 (1)	N/A	0	0	0
Desires a longer acting method / does not want to go to the clinic every 3 months	14 (26)	N/A	N/A	14 (9)	0	N/A	N/A	0
Does not desire a hormonal method	2 (4)	0	N/A	2 (1)	0	0	N/A	0
Concerned about DMPA-IM shortage at clinics	6 (11)	N/A	N/A	6 (4)	0	N/A	N/A	0
DMPA-IM unavailable at the clinic / DMPA-IM shortage at the clinic	N/A	N/A	N/A	0	13 (27)	N/A	N/A	13 (18)
Concerns about removal post-trial exit	N/A	3 (6)	4 (8)	7 (4)	N/A	0	0	0
Found to have partial expulsion of copper-IUD and either declined reinsertion or not eligible for reinsertion[c]	N/A	N/A	4 (8)	4 (3)	N/A	N/A	0	0
Desires amenorrhea	0	2 (4)	1 (2)	3 (2)	0	0	0	0
No time / working / busy	0	0	0	0	3 (6)	0	0	3 (4)
Clinic is located too far away	0	0	0	0	2 (4)	0	0	2 (3)
Other	2 (4)	3 (6)	5 (9)	10 (6)	3 (6)	1 (6)	1 (14)	5 (7)

[a] This was a substudy of the ECHO Trial.
[b] Multiple responses allowed.
[c] Three women declined Copper-IUD insertion and 1 woman was not a good candidate for reinsertion due to multiple previous Copper-IUD expulsions.

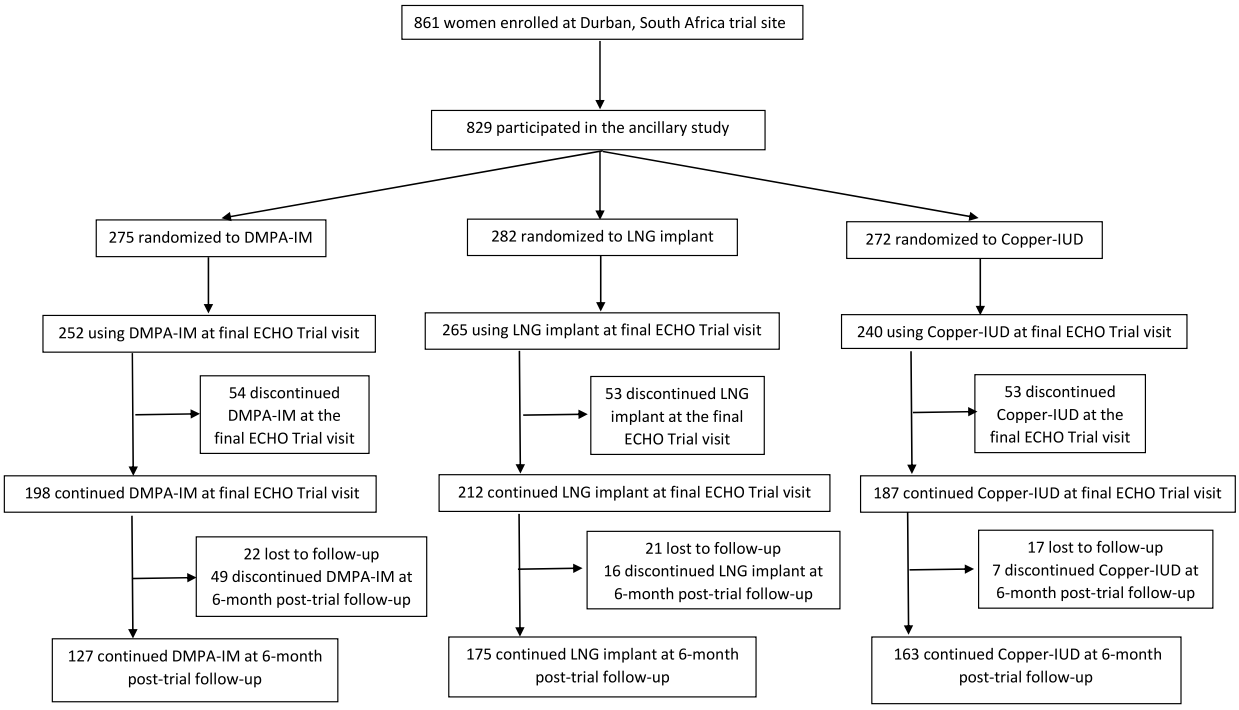

Fig. 1. Participant flow: randomized method discontinuation at the final ECHO Trial visit and 6-month post-trial follow-up in Durban, South Africa, 2015 to 2019*
*This was a substudy of the ECHO Trial.

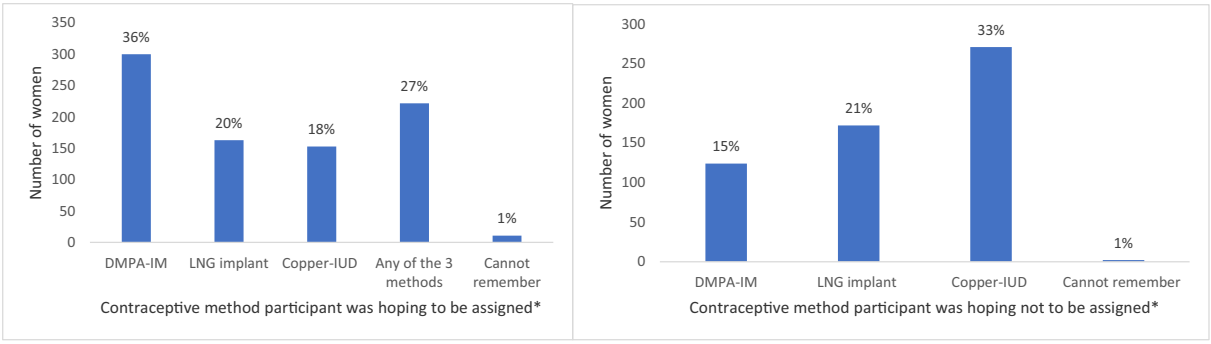

Fig. 2. Randomized contraceptive method preferences reported at the final ECHO Trial visit in Durban, South Africa**
*Multiple options allowed .
**This was a sub-study of the ECHO Trial.

ued (n = 49), the most frequent switch was to no method (63%), followed by male condoms alone (29%).

When asked at their final ECHO Trial visit, over a third of women (36%) reported hoping to be assigned to DMPA-IM at the time of randomization, while less than a quarter each hoped to get the LNG implant (20%), or copper-IUD (18%) (Fig. 2). About a quarter had no preference. While one-third of women were hoping not to be assigned the copper-IUD, only 15% did not want to be assigned to DMPA-IM. Among women still using their randomized contraceptive at the final ECHO Trial visit, women who wanted to be assigned to DMPA-IM and were assigned to DMPA-IM had 6 times the odds of continuing DMPA-IM than women who did not want to receive DMPA-IM (odds ratio [OR] = 6.00; 95% confidence interval [CI] = 2.08–17.32; p = 0.0009; Table 5). Similarly, among women using the copper-IUD, those wanted to receive the copper-IUD had almost three times the odds of continuing the copper-IUD than those who did not want to receive the copper-IUD (OR = 2.83; 95% CI = 1.15–7.01; p = 0.02). For women using the LNG-implant, there was no significant association between LNG-implant preference and continuation at the final ECHO Trial visit. However, for all three contraceptive groups, the proportion of women who were assigned to a randomized method they did not want to receive was small (79 of 388, 20%).

4. Discussion

The majority of ECHO Trial participants were using their randomized contraceptive method at the final ECHO Trial visit and of these, about 20% in each contraceptive group discontinued their randomized method at this visit. Among those discontinuing, about a quarter switched to DMPA-IM, and a quarter chose no method. The most frequent reasons for randomized method discontinuation at the final ECHO Trial visit were adverse events and wanting to try another contraceptive method. However, 6 months post-trial exit, more women in the DMPA-IM group had discontinued their randomized contraceptive compared to the LNG implant and copper-IUD groups. Notably, almost 60% of women who discontinued their randomized contraceptive after exiting the study were not using a contraceptive method at the 6-month post-trial follow-up, despite only 7% desiring conception. Overall, high continuation rates were observed for all three randomized methods.

Similar high continuation rates for LARCs were observed in the contraceptive CHOICE project with 85% of women continuing a copper-IUD at 1 year and 82% continuing an implant, while only 57% of women continued DMPA-IM in that study [12]. In an HIV prevention trial, continuation rates at 1 year were 77% for copper-IUD, 82% for implant, and 69% for DMPA-IM [13]. Both these studies included contraceptive counselling and on-site contraceptive provision; however, women were able to choose their contraceptive methods unlike the ECHO Trial, where women were randomized to study contraceptives. A study that looked at IUD discontinuation in developing countries found the median probability of IUD discontinuation at 1 year was 13% (range: 10%–37%) [14]. In our study, women in the copper-IUD arm were more likely to have discontinued their contraceptive method prior to the final visit (88% vs 92%–94%), and this may be because many women who discontinue copper-IUDs usually do so within the first few months of use [15]. While we found similar discontinuation rates for all three methods at the final ECHO Trial visit, we found that more women discontinued DMPA-IM at 6-month post-trial follow-up compared to the other 2 methods. Of interest, a quarter of women who discontinued DMPA-IM post-trial exit had done so because DMPA-IM was unavailable at the clinic due to stock-outs, which was pervasive in the public sector at the time [16]. In these cases, women did not necessarily "choose" to discontinue DMPA-IM but rather were unable to access DMPA-IM. Reasons for contraceptive method discontinuation at the final ECHO Trial visit are consistent with published literature on contraceptive discontinuation [3,4,12]. Contraceptive switching at the final ECHO Trial visit was observed, where 16% of women discontinued their randomized contraceptive to switch to another method. Contraceptive switching has been observed in other trials, for instance, in an HIV prevention trial, 60% of DMPA-IM users had switched to a LARC [13].

The increased preference towards DMPA-IM in our study is likely because injectables are familiar and commonly used in South Africa [3]. Overall, use of implants and IUD is low in South Africa [2], and accordingly, few women had previously used these methods before study participation which may be the reason more women preferred not to receive these methods. It is however reassuring that while many women hoped not to be assigned to LNG implant or copper-IUD, overall, the proportion of women discontinuing these methods at the final ECHO Trial visit and 6-month post-trial follow-up was low. This suggests that with good quality counselling, support and side effect management, women may initiate and continue using contraceptive methods that they did not have prior experience with, or knowledge of. For women randomized to DMPA-IM or the copper-IUD, we found that those who had a preference to receiving these methods had an increased odds of contraceptive method continuation at the final ECHO Trial visit compared to women who did not want to receive DMPA-IM or the copper-IUD; however, the small sample size for women who did not want to receive these methods needs to be taken into consideration when interpreting this finding. For the LNG implant, we found no statistically significant association between method preference and continuation. A study that enrolled women seeking injectable or oral contraceptives and randomized those who were agreeable to either a long-acting or short-acting reversible contraceptive found that 78% of women randomized to a LARC continued at 1 year, despite an initial preference towards a short-acting contraceptive at enrolment [17].

Our study has some limitations. First, our findings are limited to a single trial site. Second, reasons for contraceptive method discontinuation prior to the final ECHO Trial visit, and reasons for non-randomized method discontinuation, were not included in this analysis. However, overall method continuation during the ECHO Trial was high, so this is unlikely to account for major differences in contraceptive use. Recall bias could have been present as we asked women about initial contraceptive preferences at the final ECHO Trial visit, approximately 12 to 18 months after randomization. Third, while we collected data on contraceptive discontinuation post-trial exit, we did not collect data on women who desired LNG-implant or copper-IUD removal but might have been unable to access providers for removal of these contraceptives after exiting the study. Lastly, we did not collect data on why women preferred, or did not want to be assigned to, particular contraceptives.

In conclusion, our study findings indicate that discontinuation of all 3 methods was low, both at ECHO Trial exit and 6 months later. Contraceptive providers and services should offer women quality contraceptive counselling, support and a range of contraceptive methods including LARC to allow women to make informed decisions about which contraceptive methods to use. Despite minimal prior use of implants and IUDs in our cohort, many women randomized to these methods opted to initiate or continue using these methods at study exit and beyond.

Acknowledgments

We are grateful to the women who participated in the ECHO Trial.

Table 5
Association between randomized contraceptive method preference and randomized method continuation at the final ECHO Trial visit in Durban, South Africa, 2015 to 2019[a]

Contraceptive method preference[b]	Continued method n (%)	Did not continue method n (%)	OR, 95%CI	*p* value
Randomized to DMPA-IM				
Wanted to get DMPA-IM (n = 133)	112 (84)	21 (16)	6.00 (2.08–17.32)	**0.0009**
Did not want to get DMPA-IM (n = 17)	8 (47)	9 (53)	ref	
Randomized to LNG implant				
Wanted to get LNG implant (n = 96)	79 (82)	17 (18)	1.64 (0.56–4.77)	0.36
Did not want to get LNG implant (n = 23)	17 (74)	6 (26)	ref	
Randomized to copper-IUD				
Wanted to get copper-IUD (n = 80)	68 (85)	12 (15)	2.83 (1.15–7.01)	**0.02**
Did not want to get copper-IUD (n = 39)	26 (67)	13 (33)	ref	
Combined (DMPA-IM, LNG implant and copper-IUD)				
Method wanted (n = 309)	259 (84)	50 (16)	2.84 (1.64-4.94)	**0.0002**
Method did not want (n = 79)	51 (65)	28 (35)	ref	

Bold values indicate $p < 0.05$.

[a] This was a substudy of the ECHO Trial.

[b] This analysis was limited to women who were still using their randomized contraceptive at the final ECHO Trial visit. Women who did not have a contraceptive preference are excluded.

Table 4
Contraceptive method choice among women who discontinued their randomized contraceptive at the final ECHO Trial visit, and 6-month post-trial exit follow-up in Durban, South Africa, 2015 to 2019[a]

Contraceptive method choice	Final ECHO Trial visit				6-month post-trial follow-up			
	Discontinued randomized contraceptive method n (%)			Total n = 160 n (%)	Discontinued randomized contraceptive method n (%)			Total n = 72 n (%)
	DMPA-IM n = 54	LNG implant n = 53	Copper-IUD n = 53		DMPA-IM n = 49	LNG implant n = 16	Copper-IUD n = 7	
DMPA-IM	0	21 (40)	21 (40)	42 (26)	0	5 (31)	1 (14)	6 (8)
Net-En	4 (7)	2 (4)	1 (2)	7 (4)	2 (4)	1 (6)	0	3 (4)
LNG implant	16 (30)	0	2 (4)	18 (11)	0	0	1 (14)	1 (1)
ENG implant	1 (2)	0	1 (2)	2 (1)	1 (2)	0	0	1 (1)
Copper-IUD	11 (20)	5 (9)	0	16 (10)	0	1 (6)	0	1 (1)
Oral contraceptives	2 (4)	3 (6)	5 (9)	10 (6)	0	0	0	0
Male condoms	9 (17)	8 (14)	6 (11)	23 (14)	14 (29)	1 (6)	2 (29)	17 (24)
Female condoms	1 (2)	0	0	1 (1)	1 (2)	0	0	1 (1)
Emergency contraception	0	0	1 (2)	1 (1)	0	0	0	0
None / No method	10 (19)	14 (26)	16 (30)	40 (25)	31 (63)	8 (50)	3 (43)	42 (58)

[a] This was a substudy of the ECHO Trial.

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