



Preferences and Acceptability for Long-Acting PrEP Agents Among Pregnant and Postpartum Women with Experience Using Daily Oral PrEP in South Africa and Kenya

Nafisa Wara

University of California, Los Angeles David Geffen School of Medicine

Adherence 2022 • November 7-9 • Washington, DC



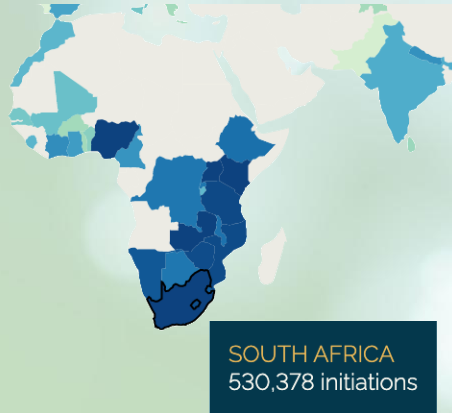
Disclosures

- The PrEP-PP observational cohort study received the study drug (Truvada®) from Gilead Sciences (Foster City, CA, USA).

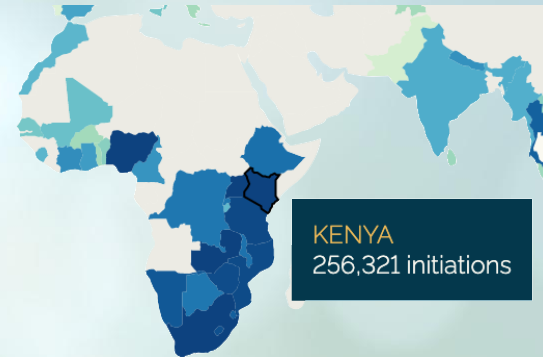


Background: PrEP in South Africa and Kenya

- Daily oral PrEP (TDF/FTC in South Africa, TDF/FTC or F/TAF in Kenya) show promise in addressing high HIV burden in South Africa and Kenya



Highest number of
PrEP initiations globally



2nd highest number of
PrEP initiations globally

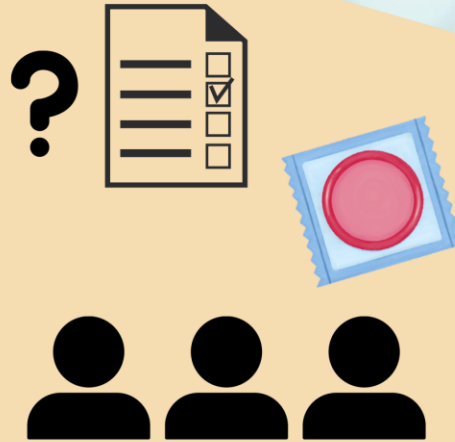
Background: HIV among pregnant and postpartum women

#ADHERENCE2022



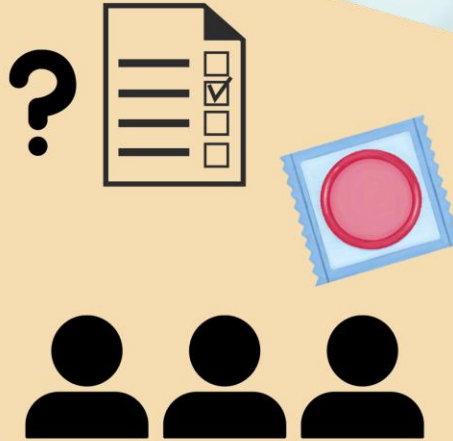
Background: HIV among pregnant and postpartum women

#ADHERENCE2022



Background: HIV among pregnant and postpartum women

#ADHERENCE2022



Background: Pregnant and postpartum women experience barriers to persisting on daily oral PrEP

#ADHERENCE2022



Logistical

- forgetting to take PrEP daily
- being away from home when PrEP should be taken
- logistics around PrEP collection especially when not in antenatal care
- transport and financial barriers
- Systems-level: insufficient integration into perinatal care

Daily Pill-related

- pill side effects
- pill burden during pregnancy/postpartum

Sociocultural

- anticipated PrEP stigma
- limited disclosure of PrEP use/concealment of PrEP particularly more challenging postpartum



Objective

- Evaluate preferences and potential acceptability regarding long-acting PrEP and differentiated PrEP service delivery among oral PrEP-experienced pregnant and postpartum women in South Africa and Kenya, with a focus on:



Objective

- Evaluate preferences and potential acceptability regarding long-acting PrEP and differentiated PrEP service delivery among oral PrEP-experienced pregnant and postpartum women in South Africa and Kenya, with a focus on:
 - Likes and dislikes regarding daily oral PrEP use



Objective

- Evaluate preferences and potential acceptability regarding long-acting PrEP and differentiated PrEP service delivery among oral PrEP-experienced pregnant and postpartum women in South Africa and Kenya, with a focus on:
 - Likes and dislikes regarding daily oral PrEP use
 - Preferences regarding future PrEP technologies in development



Objective

- Evaluate preferences and potential acceptability regarding long-acting PrEP and differentiated PrEP service delivery among oral PrEP-experienced pregnant and postpartum women in South Africa and Kenya, with a focus on:
 - Likes and dislikes regarding daily oral PrEP use
 - Preferences regarding future PrEP technologies in development
 - Preferences and acceptability of long-acting PrEP methods and differentiated PrEP service delivery

Methods

#ADHERENCE2022



- Surveys conducted between September 2021 and February 2022
- Subsample of participants enrolled and attending follow-up visits for:
 1. PrEP-PP: prospective cohort study offering daily oral PrEP to pregnant and postpartum women in Gugulethu MOU, South Africa (N=1201, n=190)
 2. PrIMA-X: observational extension cohort of RCT offering daily oral PrEP to pregnant and postpartum women in multiple clinics throughout Western Kenya (N=1300, n=204)



PrEP-PP

Pre-exposure Prophylaxis in
Pregnancy & Postpartum Period



PrIMA

PrEP IMPLEMENTATION FOR MOTHERS
IN ANTENATAL CARE

Methods

#ADHERENCE2022



- Inclusion criteria:
 - Pregnant or ≤ 9 months postpartum
 - Enrolled in PrEP-PP or PrIMA-X
 - Currently taking or have taken oral PrEP (any duration)
- Statistical methods:
 - Descriptive participant responses
 - Chi-square and Fischer's Exact tests to compare responses between countries
 - Multivariable logistic regression analyses to assess predictors of long-acting PrEP preference, adjusted for age/country a priori

Results: Demographics

#ADHERENCE2022



Table 1: Participant Characteristics	Overall (N=394) Median [IQR] or %	South Africa (n=190) Median [IQR] or %	Kenya (n=204) Median [IQR] or %	p-Value
Age (median, IQR)	28 [24-32]	27 [22-32]	29 [25-33]	<0.001



Median age = 28
[IQR 24-32]

Results: Demographics

#ADHERENCE2022



Table 1: Participant Characteristics	Overall (N=394) Median [IQR] or %	South Africa (n=190) Median [IQR] or %	Kenya (n=204) Median [IQR] or %	p-Value
Pregnant	27%	33%	21%	0.005
Postpartum	73%	67%	79%	

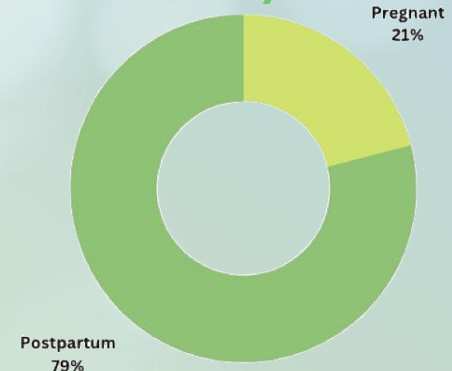


Median age = 28
[IQR 24-32]

South Africa



Kenya



Results: Demographics

#ADHERENCE2022



Table 1: Participant Characteristics	Overall (N=394) Median [IQR] or %	South Africa (n=190) Median [IQR] or %	Kenya (n=204) Median [IQR] or %	p-Value
Last grade completed				
Primary (Grades 1-6)	7%	1%	13%	<0.001
Some or all secondary (Grades 7-11)	83%	93%	73%	
Some or all tertiary	10%	6%	14%	



83%
Some or all
secondary school
(Gr 7-11)



79%
Not employed



75%
Took PrEP at least
once over past
30 days

Results: Demographics

#ADHERENCE2022



Table 1: Participant Characteristics	Overall (N=394) Median [IQR] or %	South Africa (n=190) Median [IQR] or %	Kenya (n=204) Median [IQR] or %	p-Value
Age (median, IQR)	28 [24-32]	27 [22-32]	29 [25-33]	<0.001
Pregnant Postpartum	27% 73%	33% 67%	21% 79%	0.005
Last grade completed Primary (Grades 1-6) Some or all secondary (Grades 7-11) Some or all tertiary	7% 83% 10%	1% 93% 6%	13% 73% 14%	<0.001
Currently employed (formally or informally) No	79%	72%	87%	<0.001
Self-reported PrEP use over past 30 days Yes	75%	82%	68%	<0.001

Kenya vs SA cohorts differed in age, education, employment and PrEP use

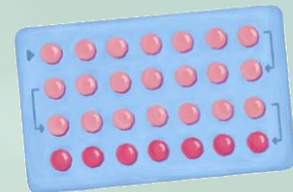
Results: Demographics

#ADHERENCE2022



Table 1: Participant Characteristics	Overall (N=394) Median [IQR] or %	South Africa (n=190) Median [IQR] or %	Kenya (n=204) Median [IQR] or %	p-Value
Ever used any family planning methods				
Injectable contraceptive	79%	94%	66%	<0.01
Male/external condom	55%	90%	23%	<0.01
Contraceptive implant	46%	37%	54%	<0.01
Oral contraceptive pill	25%	22%	27%	0.22
Other*	5%	5%	4%	--
None	3%	1%	4%	0.013

*Other responses: Female/internal condom, vaginal contraceptive ring, IUD/loop, tubal ligation



Results: Oral PrEP likes and dislikes

#ADHERENCE2022



Table 2A: Oral PrEP likes	Overall (N=394) %	South Africa (n=190) %	Kenya (n=204) %	p-Value
HIV prevention	98%	98%	98%	0.92
PrEP has few/no side effects	15%	18%	13%	0.12
Ease of use	7%	8%	5%	0.23
Easy to hide	3%	0%	5%	---
No interruption of sex (as is needed for condoms)	4%	3%	5%	0.17
Other*	6%	10%	2%	---
Nothing	0.3%	0%	1%	---

*Other responses (<5%): PrEP is safe for baby, overall safety, take it daily, take it orally, increased appetite, peaceful sleep



**98% like that oral PrEP
effectively prevents HIV
infection**

Results: Oral PrEP likes and dislikes

#ADHERENCE2022



Table 2B: Oral PrEP dislikes	Overall (N=394) %	South Africa (n=190) %	Kenya (n=204) %	p-Value
Side effects	25%	21%	30%	0.03
Must take it daily	23%	20%	25%	0.20
Must take it orally	9%	6%	11%	0.08
Other**	6%	8%	5%	--
Nothing	51%	58%	44%	0.005

**Other responses (<5%) no STI prevention, cost, pill size, pill taste, pill smell, general dislike



**25% dislike oral
PrEP side effects**

Results: Oral PrEP likes and dislikes

#ADHERENCE2022



Table 2B: Oral PrEP dislikes	Overall (N=394) %	South Africa (n=190) %	Kenya (n=204) %	p-Value
Side effects	25%	21%	30%	0.03
Must take it daily	23%	20%	25%	0.20
Must take it orally	9%	6%	11%	0.08
Other**	6%	8%	5%	--
Nothing	51%	58%	44%	0.005

**Other responses (<5%) no STI prevention, cost, pill size, pill taste, pill smell, general dislike



**25% dislike oral
PrEP side effects**



**23% dislike taking
oral PrEP daily**

Results: Oral PrEP likes and dislikes

#ADHERENCE2022



Table 2B: Oral PrEP dislikes	Overall (N=394) %	South Africa (n=190) %	Kenya (n=204) %	p-Value
Side effects	25%	21%	30%	0.03
Must take it daily	23%	20%	25%	0.20
Must take it orally	9%	6%	11%	0.08
Other**	6%	8%	5%	--
Nothing	51%	58%	44%	0.005

**Other responses (<5%) no STI prevention, cost, pill size, pill taste, pill smell, general dislike



**25% dislike oral
PrEP side effects**



**23% dislike taking
oral PrEP daily**



**9% dislike taking
oral PrEP orally**

Results: Oral PrEP likes and dislikes

#ADHERENCE2022



Table 2B: Oral PrEP dislikes	Overall (N=394) %	South Africa (n=190) %	Kenya (n=204) %	p-Value
Side effects	25%	21%	30%	0.03
Must take it daily	23%	20%	25%	0.20
Must take it orally	9%	6%	11%	0.08
Other**	6%	8%	5%	--
Nothing	51%	58%	44%	0.005

**Other responses (<5%) no STI prevention, cost, pill size, pill taste, pill smell, general dislike



**25% dislike oral
PrEP side effects**



**23% dislike taking
oral PrEP daily**



**9% dislike taking
oral PrEP orally**

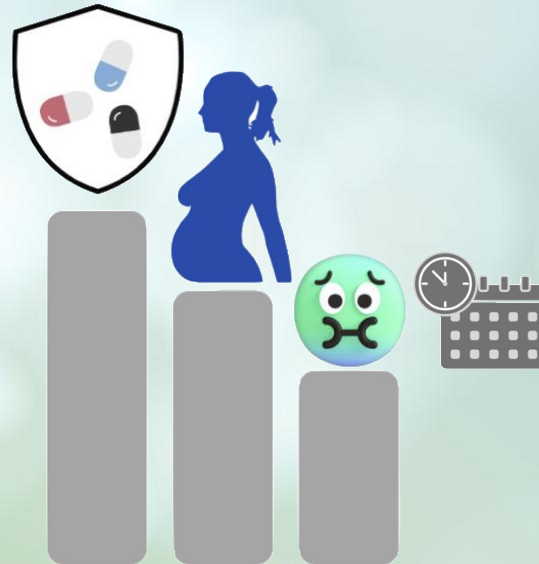


**51%: No dislikes
about oral PrEP**



Results: Future PrEP Preferences

- When asked to rank the top three most important characteristics of a potential PrEP product:
 - 203 participants (51%) ranked **HIV prevention** #1, followed by
 - Healthy pregnancy** (n=47)
 - Frequency of use** (n=39)
 - Side effects** (n=39)





Results: Future PrEP Preferences

- When asked to rank the top three most important characteristics of a potential PrEP product:
 - 203 participants (51%) ranked **HIV prevention** #1, followed by
 - **Healthy pregnancy** (n=47)
 - **Frequency of use** (n=39)
 - **Side effects** (n=39)
- 203 participants (51%) ranked cost as most important access-related characteristic of a potential PrEP product





Results: Future PrEP Preferences

- When asked to rank the top three most important characteristics of a potential PrEP product:
 - 203 participants (51%) ranked **HIV prevention** #1, followed by
 - **Healthy pregnancy** (n=47)
 - **Frequency of use** (n=39)
 - **Side effects** (n=39)
- 203 participants (51%) ranked cost as most important access-related characteristic of a potential PrEP product
- 123 participants (31%) ranked a PrEP product that can be used/replaced **once a year** as most preferable, followed by **once per month** (n=62) and **once every 2-3 months** (59%)



Results: 75% of pregnant and postpartum women prefer injectable PrEP over oral PrEP

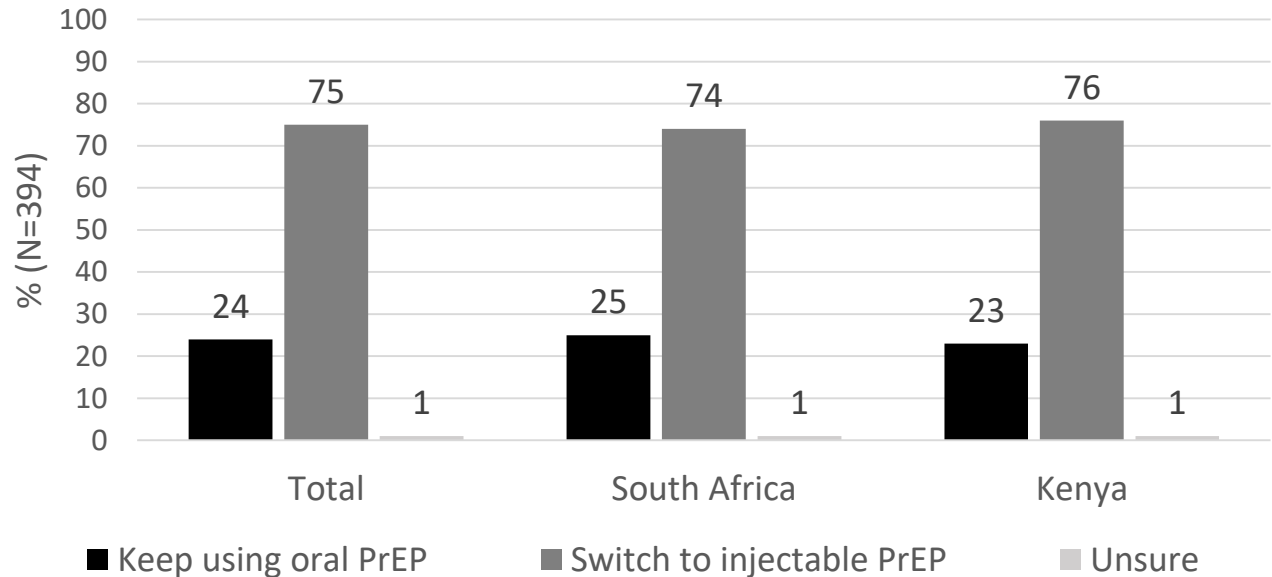
#ADHERENCE2022



Descriptive characteristics provided re: injectable cabotegravir:

- Method of insertion
- Effectiveness of HIV prevention
- Duration of effectiveness
- Described side effects

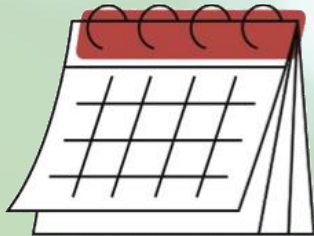
If injectable PrEP were approved as safe for pregnant or breastfeeding women to use, would you prefer to keep using oral PrEP or switch to the injection?





Results: 75% of pregnant and postpartum women prefer injectable PrEP over oral PrEP

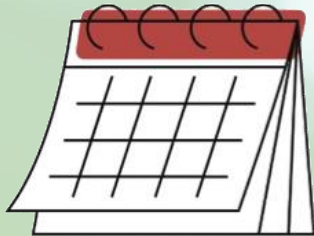
What characteristics about the injection make you interested in switching?	Overall (N=297) %	South Africa (n=141) %	Kenya (n=156) %	p-Value
Longer duration/once every 8 weeks	63%	87%	42%	<0.01
Easy to keep private from my partner/others	28%	5%	49%	<0.01





Results: 75% of pregnant and postpartum women prefer injectable PrEP over oral PrEP

What characteristics about the injection make you interested in switching?	Overall (N=297) %	South Africa (n=141) %	Kenya (n=156) %	p-Value
Longer duration/once every 8 weeks	63%	87%	42%	<0.01
Easy to keep private from my partner/others	28%	5%	49%	<0.01



Results: 90% of pregnant and postpartum women were unsure/preferred to stay on oral PrEP over the vaginal ring

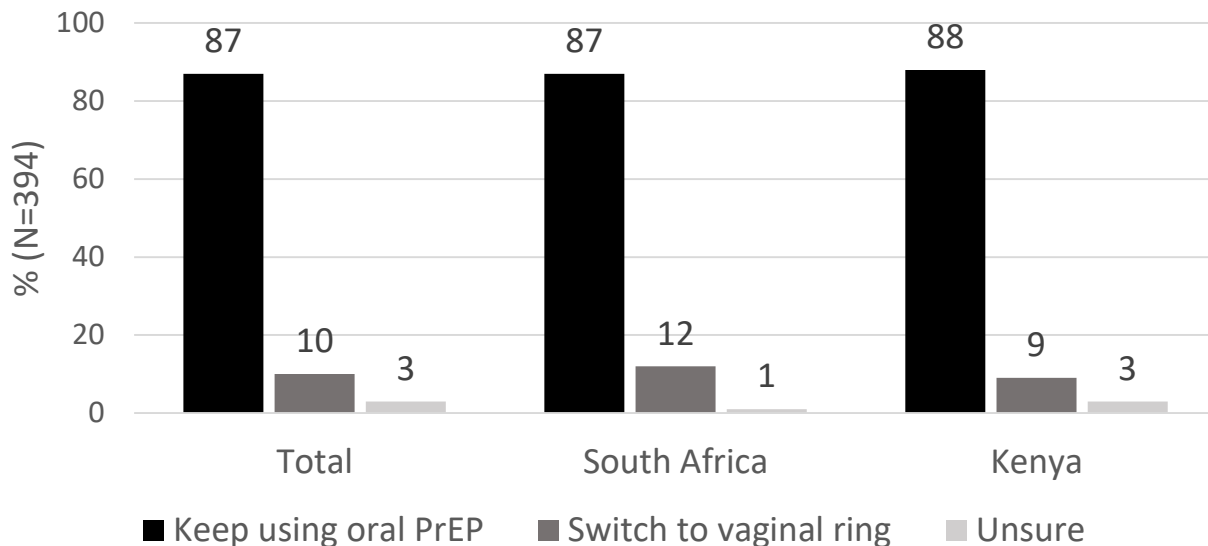
#ADHERENCE2022



Descriptive characteristics provided re: dapivirine vaginal ring:

- Method of insertion
- Effectiveness of HIV prevention
- Duration of effectiveness
- Described side effects

If the **vaginal ring** were approved as safe for pregnant or breastfeeding women to use, would you prefer to keep using oral PrEP or switch to the vaginal ring?

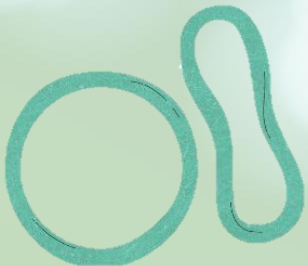


Results: 90% of pregnant and postpartum women were unsure/preferred to stay on oral PrEP over the vaginal ring

#ADHERENCE2022



What characteristics about the ring make you not interested or unsure about switching?	Overall (N=344) %	South Africa (n=165) %	Kenya (n=179) %	p-Value
Insertion into vagina	64%	82%	48%	<0.001
Side effects	27%	21%	33%	0.017



Results: 90% of pregnant and postpartum women were unsure/preferred to stay on oral PrEP over the vaginal ring

#ADHERENCE2022

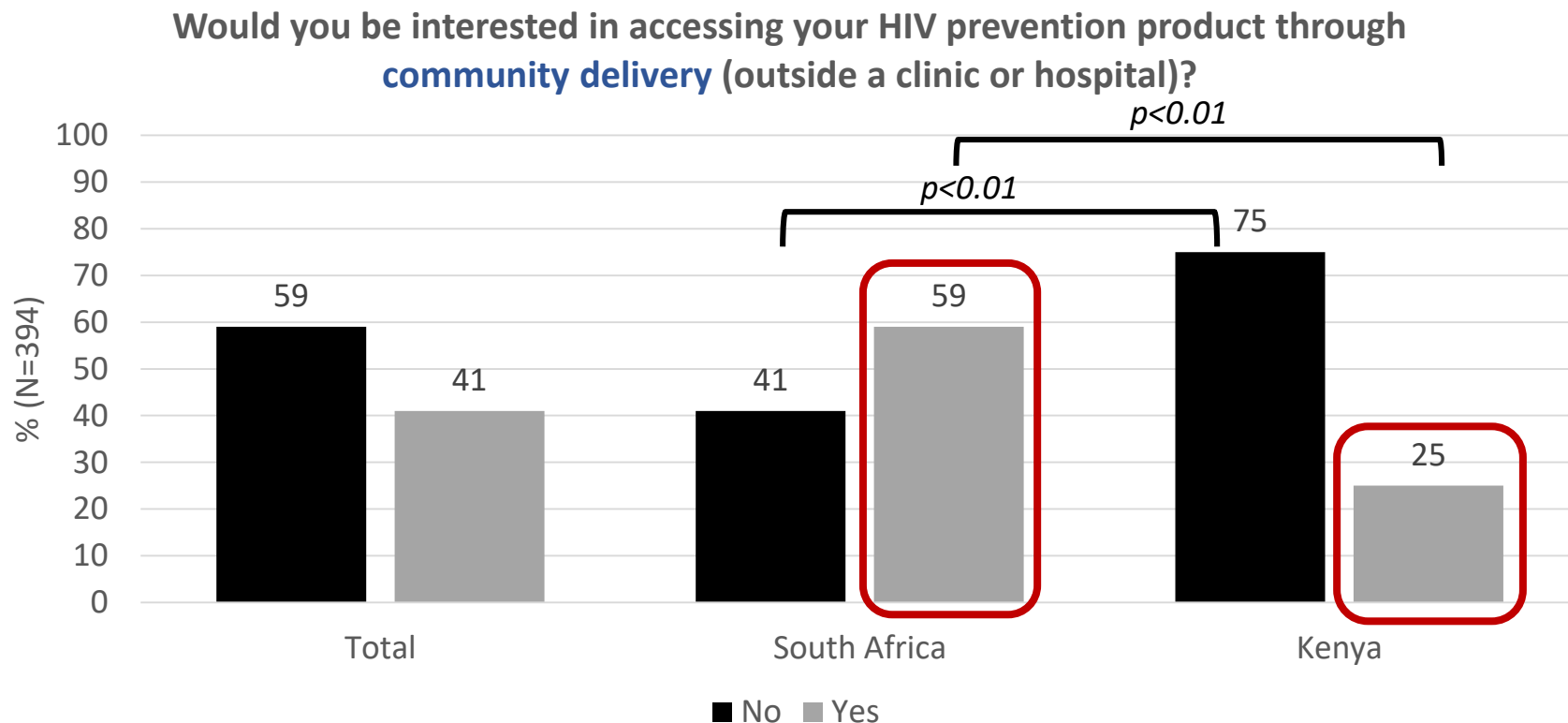


What characteristics about the ring make you not interested or unsure about switching?	Overall (N=344) %	South Africa (n=165) %	Kenya (n=179) %	p-Value
Insertion into vagina	64%	82%	48%	<0.001
Side effects	27%	21%	33%	0.017



Results: South African respondents **significantly more interested** in differentiated PrEP delivery than Kenyan respondents

#ADHERENCE2022



Results: South African respondents **significantly more interested** in differentiated PrEP delivery than Kenyan respondents

#ADHERENCE2022



<i>For those who selected “Yes”:</i> Why would you be interested in accessing HIV prevention through community delivery?	Overall (N=163) %	South Africa (n=113) %	Kenya (n=50) %	p-Value
Convenience (e.g. close to home and work)	49%	54%	38%	0.06
Less HIV/PrEP stigma	13%	2%	38%	<0.01

<i>For those who selected “No”:</i> Why do you prefer facility delivery?	Overall (N=231) %	South Africa (n=77) %	Kenya (n=54) %	p-Value
Clinic is more private	75%	75%	75%	1
Stigma of delivery in the community	9%	23%	1%	<0.01

Results: South African respondents **significantly more interested** in differentiated PrEP delivery than Kenyan respondents

#ADHERENCE2022



<i>For those who selected "Yes":</i> Why would you be interested in accessing HIV prevention through community delivery?	Overall (N=163) %	South Africa (n=113) %	Kenya (n=50) %	p-Value
Convenience (e.g. close to home and work)	49%	54%	38%	0.06
Less HIV/PrEP stigma	13%	2%	38%	<0.01

<i>For those who selected "No":</i> Why do you prefer facility delivery?	Overall (N=231) %	South Africa (n=77) %	Kenya (n=54) %	p-Value
Clinic is more private	75%	75%	75%	1
Stigma of delivery in the community	9%	23%	1%	<0.01



Results: South African respondents **significantly more interested** in differentiated PrEP delivery than Kenyan respondents

#ADHERENCE2022



<i>For those who selected "Yes":</i> Why would you be interested in accessing HIV prevention through community delivery?	Overall (N=163) %	South Africa (n=113) %	Kenya (n=50) %	p-Value
Convenience (e.g. close to home and work)	49%	54%	38%	0.06
Less HIV/PrEP stigma	13%	2%	38%	<0.01



<i>For those who selected "No":</i> Why do you prefer facility delivery?	Overall (N=231) %	South Africa (n=77) %	Kenya (n=54) %	p-Value
Clinic is more private	75%	75%	75%	1
Stigma of delivery in the community	9%	23%	1%	<0.01



Results: Predictors of long-acting PrEP preference

#ADHERENCE2022



Predictors of preferring long-acting PrEP (vaginal ring or injectable PrEP)	Summary Statistics		Adjusted for age/country	
	Wants long-acting (n=305) median [IQR] or %	Wants oral PrEP (n=89) median [IQR] or %	aOR	p-Value
Age				
≥25y	72%	66%	1.41 [0.81, 2.44]	0.222
<25y	28%	34%		
Contraceptive used in the past				
Injection	83%	67%	2.48 [1.34, 4.57]	0.004
Oral PrEP dislikes				
Dislikes at least one thing about oral PrEP	52%	39%	1.72 [1.05, 2.80]	0.030
Daily use	25%	15%	1.92 [1.01, 3.67]	0.048
Preferred frequency of PrEP use				
Ranked every month, 2-3 months, 6 months, or year #1	75	66	1.58 [0.94, 2.65]	0.083

Bold p<0.10

Non-significant predictors (p>0.10): Age, country, obstetric history, sociodemographic characteristics, oral PrEP likes, other oral PrEP dislikes

Results: Predictors of long-acting PrEP preference

#ADHERENCE2022



Predictors of preferring long-acting PrEP (vaginal ring or injectable PrEP)	Summary Statistics		Adjusted for age/country	
	Wants long-acting (n=305) median [IQR] or %	Wants oral PrEP (n=89) median [IQR] or %	aOR	p-Value
Age				
≥25y	72%	66%	1.41 [0.81, 2.44]	0.222
<25y	28%	34%		
Contraceptive used in the past				
Injection	83%	67%	2.48 [1.34, 4.57]	0.004
Oral PrEP dislikes				
Dislikes at least one thing about oral PrEP	52%	39%	1.72 [1.05, 2.80]	0.030
Daily use	25%	15%	1.92 [1.01, 3.67]	0.048
Preferred frequency of PrEP use				
Ranked every month, 2-3 months, 6 months, or year #1	75	66	1.58 [0.94, 2.65]	0.083

Bold p<0.10

Non-significant predictors (p>0.10): Age, country, obstetric history, sociodemographic characteristics, oral PrEP likes, other oral PrEP dislikes

Results: Predictors of long-acting PrEP preference

#ADHERENCE2022



Predictors of preferring long-acting PrEP (vaginal ring or injectable PrEP)	Summary Statistics		Adjusted for age/country	
	Wants long-acting (n=305) median [IQR] or %	Wants oral PrEP (n=89) median [IQR] or %	aOR	p-Value
Age				
≥25y	72%	66%	1.41 [0.81, 2.44]	0.222
<25y	28%	34%		
Contraceptive used in the past				
Injection	83%	67%	2.48 [1.34, 4.57]	0.004
Oral PrEP dislikes				
Dislikes at least one thing about oral PrEP	52%	39%	1.72 [1.05, 2.80]	0.030
Daily use	25%	15%	1.92 [1.01, 3.67]	0.048
Preferred frequency of PrEP use				
Ranked every month, 2-3 months, 6 months, or year #1	75	66	1.58 [0.94, 2.65]	0.083

Bold p<0.10

Non-significant predictors (p>0.10): Age, country, obstetric history, sociodemographic characteristics, oral PrEP likes, other oral PrEP dislikes

Results: Predictors of long-acting PrEP preference

#ADHERENCE2022



Predictors of preferring long-acting PrEP (vaginal ring or injectable PrEP)	Summary Statistics		Adjusted for age/country	
	Wants long-acting (n=305) median [IQR] or %	Wants oral PrEP (n=89) median [IQR] or %	aOR	p-Value
Age				
≥25y	72%	66%	1.41 [0.81, 2.44]	0.222
<25y	28%	34%		
Contraceptive used in the past				
Injection	83%	67%	2.48 [1.34, 4.57]	0.004
Oral PrEP dislikes				
Dislikes at least one thing about oral PrEP	52%	39%	1.72 [1.05, 2.80]	0.030
Daily use	25%	15%	1.92 [1.01, 3.67]	0.048
Preferred frequency of PrEP use				
Ranked every month, 2-3 months, 6 months, or year #1	75	66	1.58 [0.94, 2.65]	0.083

Bold p<0.10

Non-significant predictors (p>0.10): Age, country, obstetric history, sociodemographic characteristics, oral PrEP likes, other oral PrEP dislikes

Results: Predictors of long-acting PrEP preference

#ADHERENCE2022



Predictors of preferring long-acting PrEP (vaginal ring or injectable PrEP)	Summary Statistics		Adjusted for age/country	
	Wants long-acting (n=305) median [IQR] or %	Wants oral PrEP (n=89) median [IQR] or %	aOR	p-Value
Age				
≥25y	72%	66%	1.41 [0.81, 2.44]	0.222
<25y	28%	34%		
Contraceptive used in the past				
Injection	83%	67%	2.48 [1.34, 4.57]	0.004
Oral PrEP dislikes				
Dislikes at least one thing about oral PrEP	52%	39%	1.72 [1.05, 2.80]	0.030
Daily use	25%	15%	1.92 [1.01, 3.67]	0.048
Preferred frequency of PrEP use				
Ranked every month, 2-3 months, 6 months, or year #1	75	66	1.58 [0.94, 2.65]	0.083

Bold p<0.10

Non-significant predictors (p>0.10): Age, country, obstetric history, sociodemographic characteristics, oral PrEP likes, other oral PrEP dislikes

Limitations

#ADHERENCE2022



- Unable to compare our results to pregnant and postpartum women without prior PrEP experience
- Some long-acting modalities currently unavailable (i.e. CAB-LA in both countries, dapivirine ring in Kenya) → responses may differ from actual choices in implementation

Conclusions

#ADHERENCE2022



- **Choice is important:** Participants prioritize future PrEP products that are effective, safe in pregnancy/postpartum, free, and long-acting
 - dislikes about oral PrEP: side effects, daily use, take it orally
 - 51% of participants had no dislikes re: daily oral PrEP



Conclusions

#ADHERENCE2022



- **Choice is important:** Participants prioritize future PrEP products that are effective, safe in pregnancy/postpartum, free, and long-acting
 - dislikes about oral PrEP: side effects, daily use, take it orally
 - 51% of participants had no dislikes re: daily oral PrEP



- **75%** of participants preferred long-acting injectable PrEP over oral PrEP, due to longer duration of effectiveness and discreetness

Conclusions

#ADHERENCE2022



- **Choice is important:** Participants prioritize future PrEP products that are effective, safe in pregnancy/postpartum, free, and long-acting
 - dislikes about oral PrEP: side effects, daily use, take it orally
 - 51% of participants had no dislikes re: daily oral PrEP



- **75%** of participants preferred long-acting injectable PrEP over oral PrEP, due to longer duration of effectiveness and discreetness
- Differences between SA and Kenya regarding long-acting PrEP and differentiated PrEP delivery → **context specific understanding is necessary to implement**

Next Steps

#ADHERENCE2022



- Qualitative/pre-implementation work to further understand facilitators/barriers to long-acting PrEP uptake and persistence
- Future implementation study evaluating impact of choice-based counselling for available PrEP modalities on PrEP uptake and persistence among pregnant and postpartum women

Thank You

#ADHERENCE2022



All of the pregnant and postpartum people enrolled in PrEP-PP and PrIMA-X who volunteered their time to speak with us about their PrEP preferences.

UCLA/UCT Teams

Dvora Joseph Davey

Risa Hoffman

Rufaro Mvududu

Nyiko Mashele

Landon Meyer

UW/Kenyatta National Hospital Teams

Jillian Pintye

Mary Marwa

Laurén Gómez

John Kinuthia

Grace John-Stewart

Contact: nwara@mednet.ucla.edu