Discontinuation, suboptimal adherence, and re-initiation of oral HIV pre-exposure prophylaxis: a global systematic review and meta-analysis

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Presentation overview

- We pooled the rates of PrEP discontinuation, suboptimal adherence among those who continued PrEP, and re-initiation among those who stopped PrEP
- The findings demonstrated that PrEP discontinuation in the first 6 months following initiation is common worldwide
- By accounting for suboptimal adherence, we estimate that less than 30% of PrEP initiators received the HIV protective benefit of PrEP within 6 months of initiation
- Demonstration projects, studies conducted in Sub-Saharan Africa, and studies that did not include an adherence intervention had higher rates of PrEP discontinuation
- Poor PrEP persistence, with premature discontinuation, suboptimal adherence, and infrequent restarts despite persistent or recurrent risk, undermines efforts to maximize the prevention potential of PrEP

Introduction

- Oral PrEP for HIV has shown high effectiveness in preventing HIV infection when the drug is used with high adherence
- High rates of premature PrEP discontinuation have hindered this prevention strategy
- HIV seroconversion frequently occurs shortly after the discontinuation of PrEP
- Data summarizing PrEP discontinuation are limited
- Gaps in our current knowledge regarding stopping and restarting PrEP may compromise maximizing the benefit of this prevention strategy
- This study synthesizes the estimated rates of oral PrEP discontinuation, suboptimal adherence among those who continued using PrEP, and re-initiation among those who discontinued
- We summarize the potential reasons and correlates related to PrEP discontinuation

Discontinuation of PrEP

	Treatment	PrEP
Users	Everyone living with HIV needs or will need treatment at some point	Only those at high risk need PrEP
Regimen	Treatment must be taken every day in a fixed schedule to be effective	PrEP may still provide protection if taken less than daily, depending on overall adherence patterns and route and timing of exposure to HIV
Duration	Once started, treatment must be taken for life	PrEP can be selected for periods of higher risk and stopped at other times
Alternatives	No alternative provides what treatment offers	PrEP users may choose other means to prevent HIV acquisition, especially in periods of reduced or periodic risk

PrEP is neither a one time nor a lifelong intervention.

PrEP can be stopped as HIV risk decreased or diminished.

Mentioned Discontinuation of PrEP in guidelines from WHO, CDC, International Antiviral Society-USA, Briticsh HIV Association, Australasian Society of HIV, Viral Hepatitis, and Sexual Health Medicine, South African HIV Clinicians Society

Methods

Searches

- Databases before December 18, 2020 - longitudinal studies (randomized controlled trials and longitudinal observational studies)

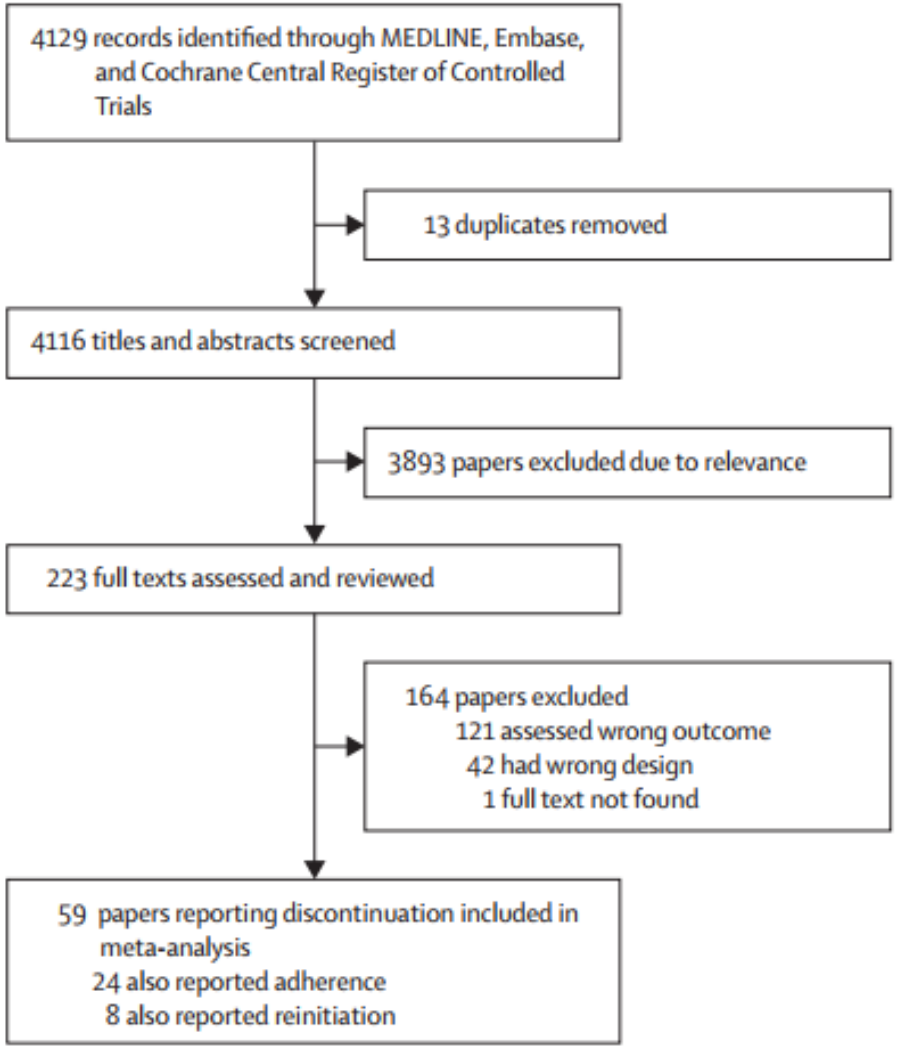
Quality of evidence

- Quality Assessment Tool for Quantitative Studies, including selection bias, study design, confounders, blinding, data collection methods, withdrawals, and drop-outs

Meta-analysis

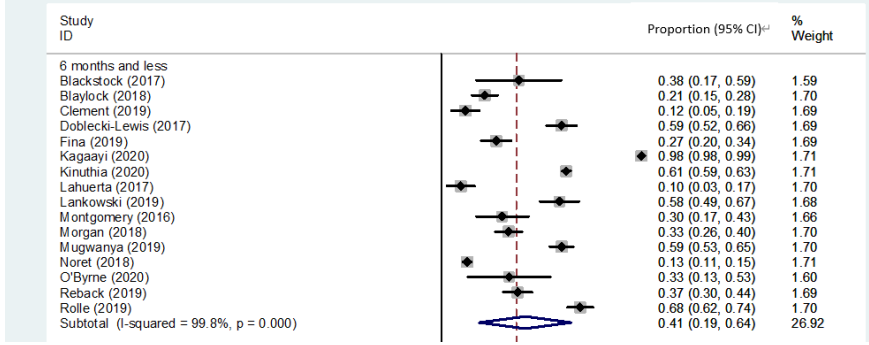
- Estimated rates of oral PrEP discontinuation
- Suboptimal adherence among those who continued using PrEP
- Re-initiation among those who discontinued

Study Selection



Results:
discontinued PrEP

6 M



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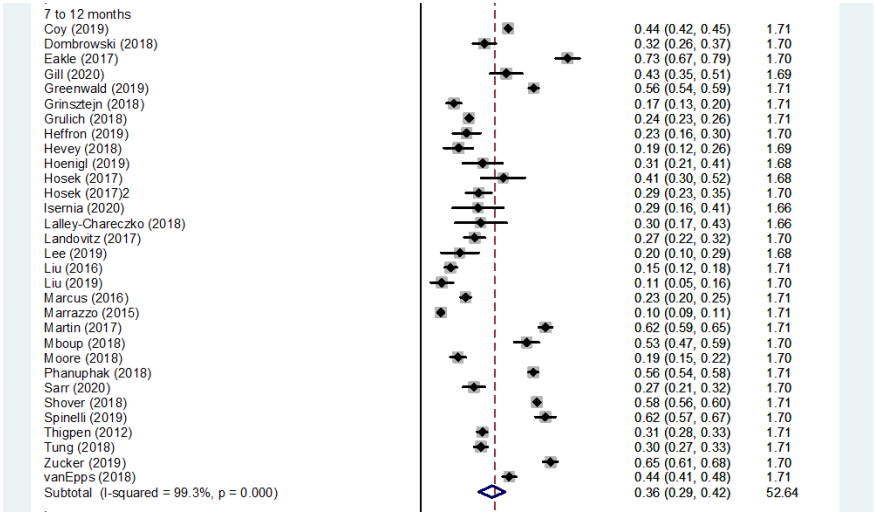

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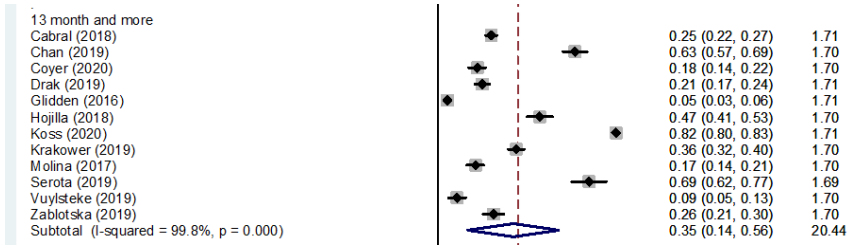


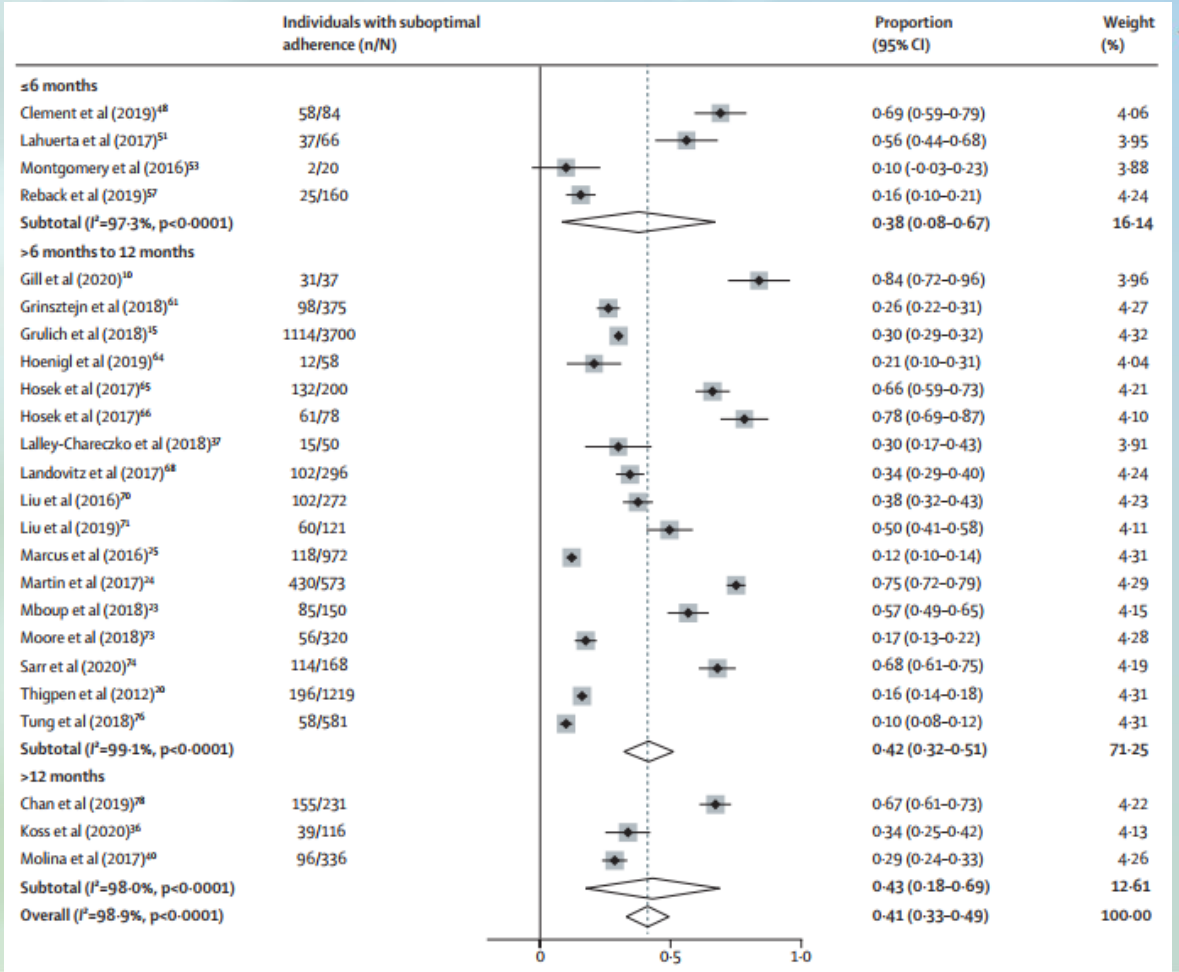
Results:

Suboptimal adherence among PrEP users who continued

Subgroups	Number of studies	Pooled estimate on rate of discontinuation (%) (95% CI)
Overall	**57**	**31.3 (26.2-37.0)**
Follow-up length*		
1-3 months	7	17.5 (0.5-45.8)
4-6 months	10	42.6 (29.4-56.9)
7-12 months	30	32.8 (25.3-41.3)
13-24 months	7	31.7 (16.2-52.8)
More than 24 months	1	10.1 (8.9-11.5)
Cross-sectional design	2	23.9 (15.0-35.9)
Study Regimen of PrEP		
daily	52	34.0 (28.5-40.0)
On-demand	1	17.5 (13.9-21.7)
Both	4	11.1 (7.6-15.8)
Economies status of study sites		
High income economies	43	30.5 (25.3-36.4)
Upper middle-income economies	8	29.3 (14.7-49.9)
Lower middle and low-income economies	6	40.7 (21.4-63.3)
Study Population		
MSM	**40**	**26.3 (22.1-31.1)**
FSWs	2	66.2 (39.2-85.6)
IDUs	1	62.0 (58.6-65.3)
Gender at birth of subjects		
male	**44**	**28.3 (23.0-33.6)**
Female	6	37.8 (14.7-68.1)
Both	7	48.9 (27.9-70.3)

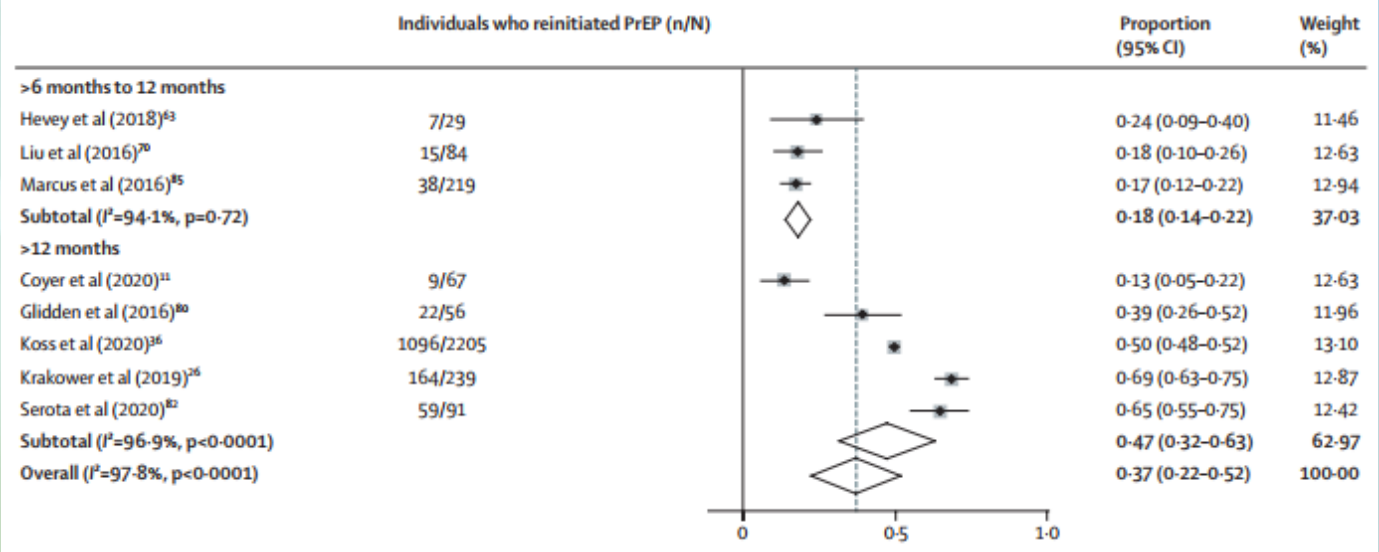
Results:

Proportion of participants with suboptimal adherence by time period



Results:

Proportion of participants who reinitiated PrEP by time period



Results

- Reasons for and correlates of PrEP discontinuation
  - Individual: low perceived risk of HIV infection, experiencing side-effects, concerns for the long-term side-effects of PrEP , challenges with medication adherence or pill burden, choosing prevention methods other than PrEP, and relocation
  - Interpersonal: lack of family support
  - Structural: cost or lack of health insurance, and inaccessibility to care
- Correlates of discontinuation.
  - The most-reported factors positively associated with discontinuation were individual-level factors, such as younger age, being female, and being transgender.

Discussion

- A marginal correlation between higher discontinuation rates and HIV incidence among GBMSM/TGW, further supporting the effectiveness of PrEP in reducing HIV acquisition
- High heterogeneity in PrEP adherence assessments
- Highly variable discontinuation rates comparing different key populations
- A third of GBMSM and transgender women discontinued PrEP within 6 months of initiation

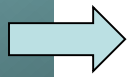
Conclusion

- Seventy percent of PrEP users either stopped or had suboptimal PrEP adherence within six months of initiation.
- Among those who discontinued, nearly half restarted PrEP one year after the first initiation.
- Strategies to encourage re-initiating PrEP for new or persistent risk should be a focus of future PrEP implementation and are critical considerations even in the era of long-acting PrEP.

Q&A

Thank you!

For more information



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Summary

References

Summary

Background