

Incidence and factors associated with PrEP discontinuation

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Infectious diseases resident

Conflict of interest

No conflict of interest.

Introduction

- Pre-exposure prophylaxis (PrEP) in France : 2016, daily or on-demand
- Importance of adherence
 - iPrEx¹ : 44% efficacy → > 90% when > 2 doses/ week
- PrEP failures after treatment discontinuations (*iPrEx*¹, *PROUD*²)
- Discontinuations
 - Meta analysis : 16.3% RCT/ 39.5% real world studies³
 - Incidence follow-up discontinuation 17.6 for 100 persons-year (*PREVENIR*⁴)

Introduction

- Causes of discontinuations (*Zhang et al., Lancet HIV, 2022*)
 - Side effects, perceived risk of HIV, follow-up difficulties
- Factors associated with discontinuation (*Andrew Medland et al., JIAS, 2023*)
 - Female gender (*HR 2.99 (2.65-3.38)*), Age < 30 y. (*HR 1.62 (1.55-1.70)*)
 - Others : transsexuality, non-white race, STI, substance misuse ?

Objectives : estimate incidence rate of PrEP discontinuation, describe the reasons for discontinuation, and characterize users who discontinue

Methods

- Retrospective cohort from 3 hospital databases
- Inclusion :
 - Follow-up between 1st January 2016, and 30th June 2022
 - PrEP users with ≥ 2 consultations in 6 months

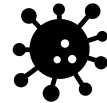
End status	Definition	Date of end of follow-up
Followed-up	Still followed on 2022-12-31	Last visit on 2022-07-01 or after
Discontinuation	3 months treatment-free	Date of discontinuation
Transfer	Followed elsewhere	Date of last visit
Lost to follow-up	Unknown status	Date of last visit + 3 months

Methods

- Variables collected :



Characteristics of PrEP users



HIV exposition



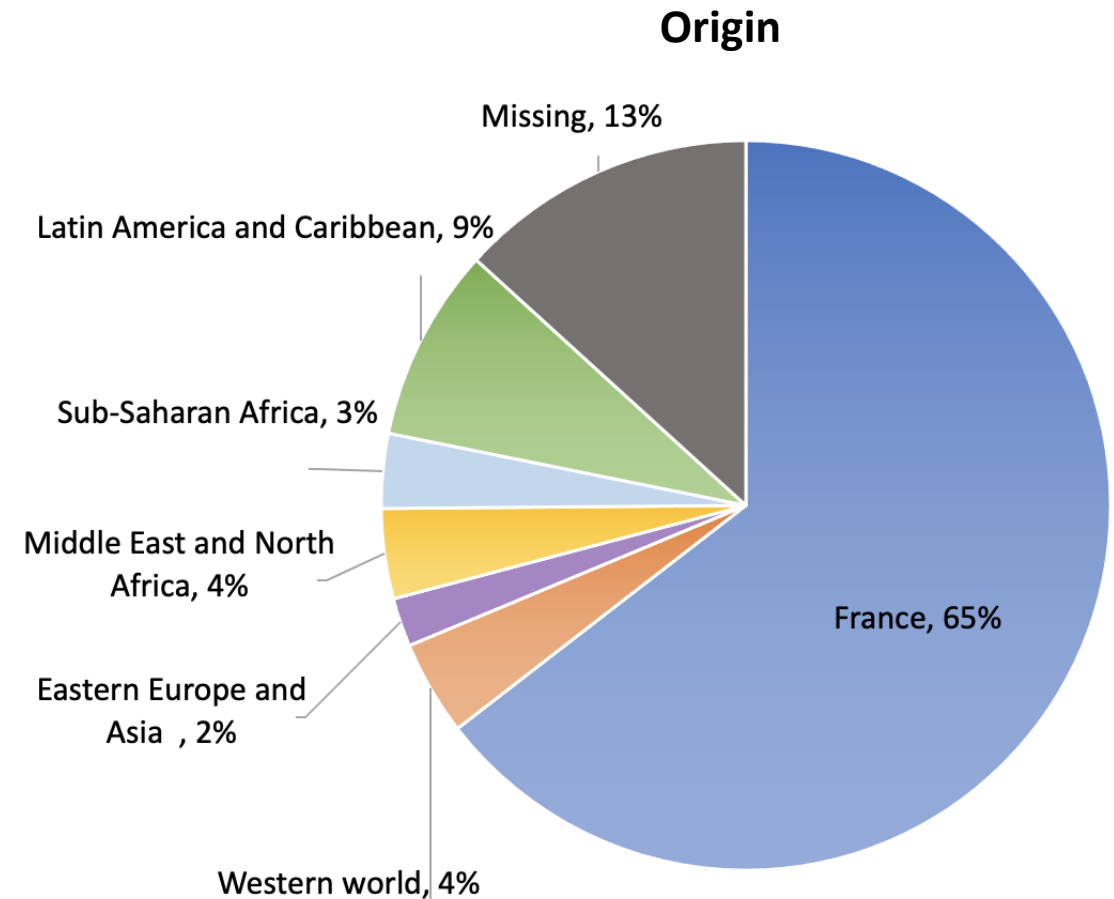
PrEP use

- Statistical analysis :

1. Incidence rate of discontinuation
2. Causes of discontinuation
3. Factors associated with discontinuation : Cox model


Baseline characteristics – 2,785 PrEP users

Baseline characteristics	Number (%) / Median (Q1-Q3)
Center	
Bichat	1011 (36.3)
Tenon	859 (30.8)
Tourcoing	915 (32.9)
Gender	
Men	2608 (93.6)
Women	51 (1.8)
Transgender	126 (4.5)
Sexuality	
MSM+	2694 (96.7)
Heterosexual	89 (3.2)
Age (years)	35 (29-43)
Sex worker	157 (5.6)
Relationship	380 (13.4)



Characteristics during follow-up – 2,785 PrEP users

Variable	Number (%) / Median (Q1-Q3)
Time between 2 visits (days)	95 (88-112)
Regimen	
Daily	1094 (39)
On-demand	1221 (44)
Mixte	470 (17)
Side effects	769 (28)
≥ 1 STI	1499 (54)
Substance misuse	728 (26)
Slam	70 (3)

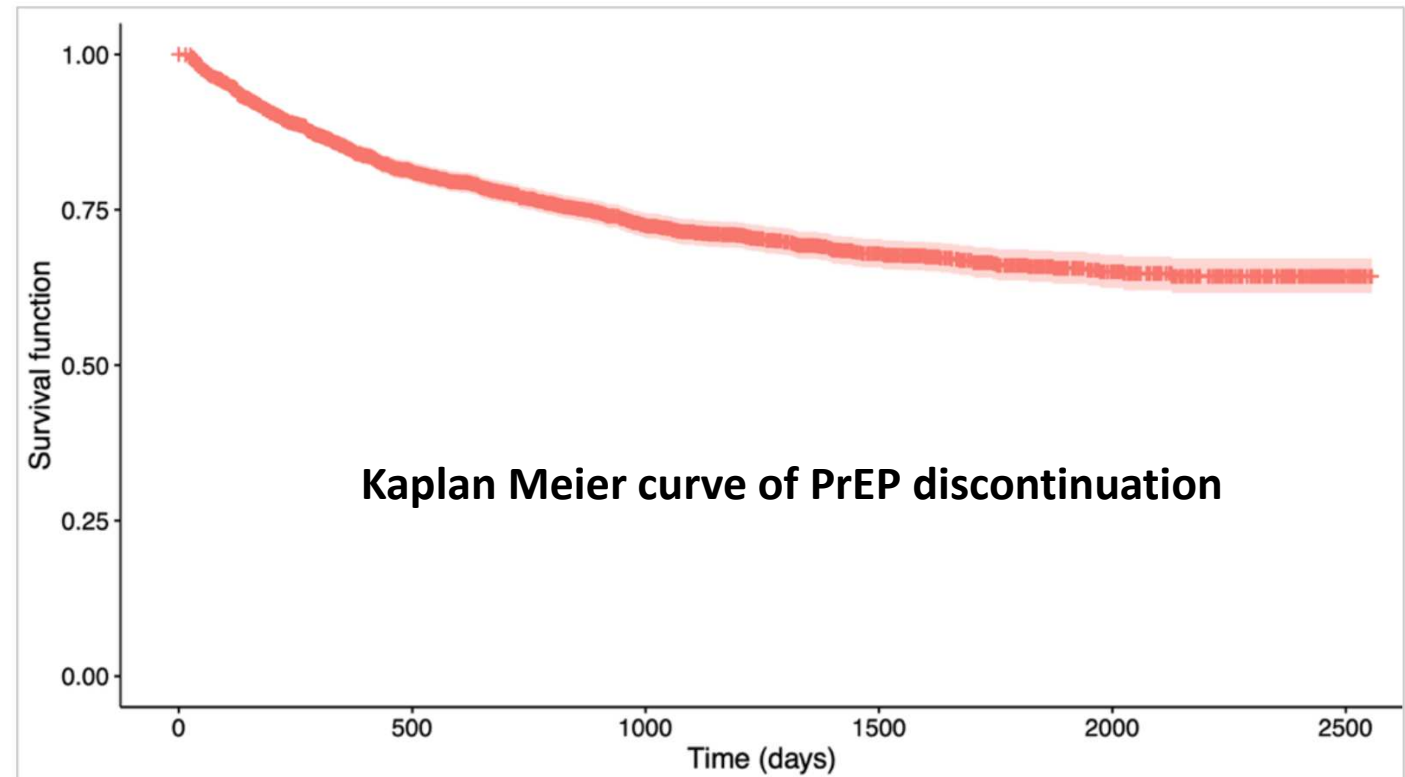
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- Digestive disorders 72%
 - Abdominal pain 18%
 - Asthenia, anorexia 10%
 - Headache 7%

Incidence rate of discontinuation

Status	Number (%)
Discontinuation	653 (23.5)
Lost to follow-up	390 (14.0)
Followed-up	1187 (42.6)
Transfer	555 (19.9)

Follow-up : 6070 persons-
years (PY)

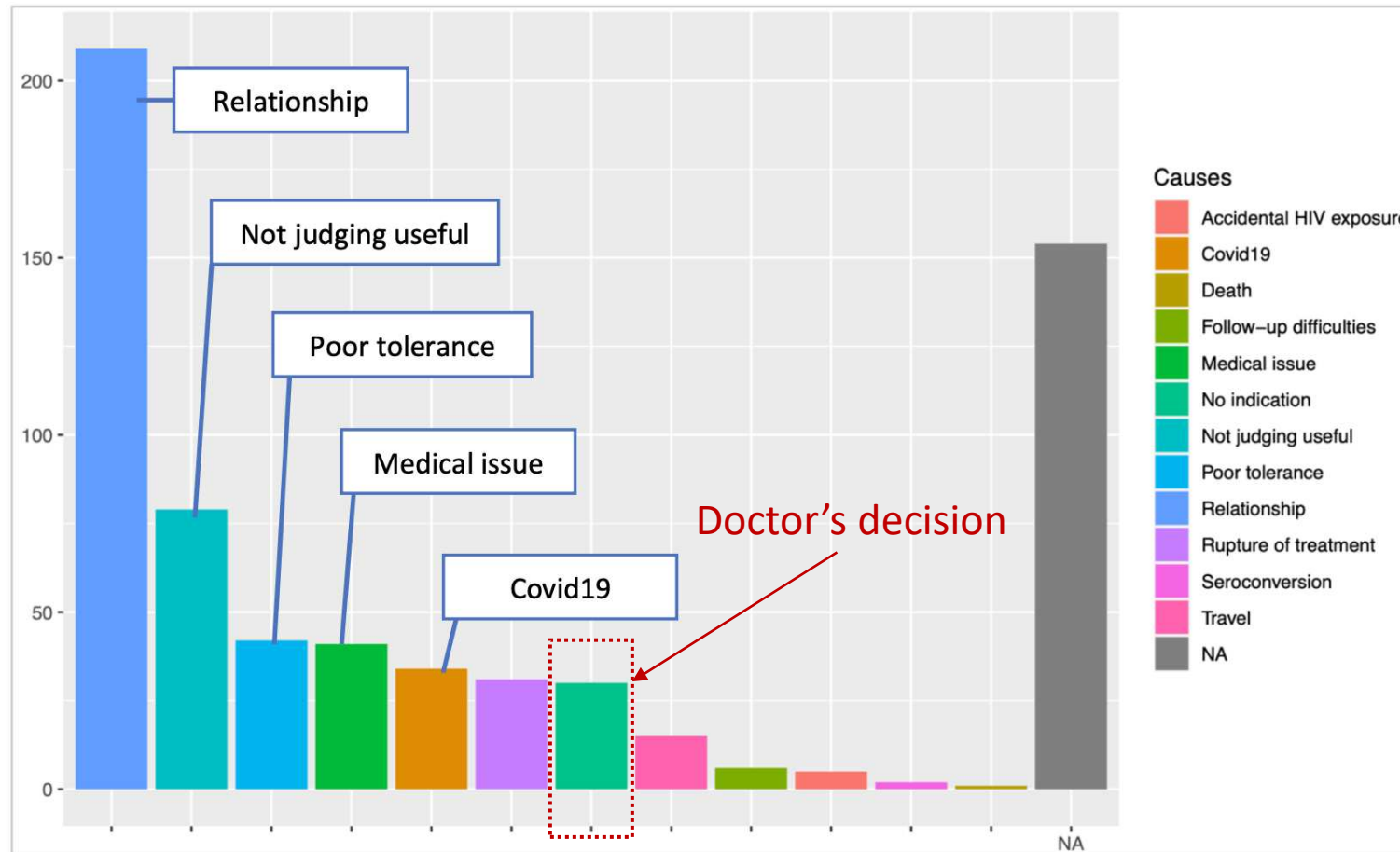
Median follow-up (months) :
19.1 [7.6 ; 39.7]



➤ I = 10.76 [9.93; 11.59] discontinuations for 100 PY

Causes of discontinuation

Causes of discontinuation



NA = not available

155/653 missing
(23.7%)

Multivariate Cox Model

Factors
associated with
PrEP
discontinuation

Variables	Discontinuation (%)	Unadjusted HR (IQR)	P-value	Adjusted HR (IQR)	P-value
Centre					
Bichat	293 (29.0)	Reference	Ref	Ref	Ref
Tenon	193 (22.5)	0.59 (0.49-0.71)	< 0.0001	0.88 (0.71-1.08)	0.210
Tourcoing	167 (18.3)	0.56 (0.46-0.68)	< 0.0001	0.79 (0.62-1.01)	0.060
Gender					
Cis Men	588 (22.6)	Ref	Ref	Ref	Ref
Cis Women	21 (41.2)	3.32 (2.15-5.14)	< 0.0001	2.44 (1.50-3.96)	< 0.001
Transgender	44 (34.9)	1.74 (1.28-2.36)	< 0.001	0.74 (0.44-1.24)	0.258
Age					
< 29 years	182 (29.3)	1.70 (1.39-2.09)	< 0.0001	1.45 (1.17-1.80)	< 0.001
29-35 years	142 (25.2)	1.23 (0.99-1.53)	0.059	1.17 (0.93-1.47)	0.186
35-43 years	199 (21.7)	Ref	Ref	Ref	Ref
> 43 years	120 (19.0)	0.81 (0.65-1.01)	0.062	0.80 (0.63-1.02)	0.066
Region of birth					
France	425 (23.7)	Reference	Ref	Ref	
Sub-Saharan Africa	28 (30.4)	1.79 (1.22-2.62)	0.003	1.11 (0.74-1.66)	0.612
Latin America and Caribbean	76 (31.8)	1.47 (1.15-1.88)	0.002	0.94 (0.65-1.34)	0.715
Eastern Europe and Asia	15 (25.0)	1.05 (0.63-1.75)	0.861	0.87 (0.51-1.46)	0.590
Middle East and North Africa	28 (25.2)	1.17 (0.79-1.71)	0.433	0.90 (0.61-1.33)	0.611
Western countries	19 (16.2)	0.64 (0.41-1.02)	0.061	0.63 (0.40-1.01)	0.053

Multivariate Cox Model

Factors
associated with
PrEP
discontinuation

Regimen					
Daily	280 (25.6)	Ref	Ref	Ref	Ref
On-demand	266 (21.8)	0.81 (0.69-0.96)	0.015	1.00 (0.82-1.21)	0.992
Mixed	107 (22.8)	0.74 (0.59-0.93)	0.009	0.82 (0.64-1.05)	0.110
Other					
Sex worker	58 (36.9)	1.85 (1.41-2.42)	< 0.0001	1.53 (0.96-2.44)	0.072
Recreative drug use	161 (22.1)	0.79 (0.66-0.95)	0.011	0.85 (0.70-1.03)	0.103
Slam	13 (18.6)	0.62 (0.36-1.08)	0.090		
Side effects (last year)	138 (36.9)	2.54 (2.10-3.07)	< 0.0001	2.25 (1.83-2.77)	< 0.0001
Symptoms of STI	152 (20.1)	0.56 (0.46-0.67)	< 0.0001	0.54 (0.44-0.66)	< 0.0001
≥ 2 STI (last year)	151 (36.5)	1.78 (1.48-2.13)	< 0.0001	1.87 (1.53-2.27)	< 0.0001
Stable Relationship at initiation	80 (21.2)	0.78 (0.62-0.98)	0.036	0.77 (0.60-0.99)	0.042
Stable Relationship during follow-up	119 (24.9)	0.81 (0.66-0.99)	0.039	0.90 (0.72-1.12)	0.334
HIV exposure accident	23 (25.3)	0.85 (0.56-1.28)	0.434		

Discussion

- Incidence rate : 10.8 discontinuations for 100 PY

Incidence rate 17.6/100 PY

PREVENIR, Molina et al., Lancet HIV, 2022

- 14% lost to follow-up

➤ 2 studies with contact of lost to follow-up^{1,2} :

- 12-15% answered
- 2/3 of them had discontinued

¹ *Johnson et al., Prev Sci, 2022*

² *Rowe et al., AIDS Pat Care STDS, 2022*

- « Not judging useful » 2nd reason for discontinuation
- Female gender, young age, side effects, STI associated with discontinuation
- Maintain contact with people who discontinue PrEP