The Motivational PrEP Cascade Among Peruvian Men Who Have Sex With Men (MSM)

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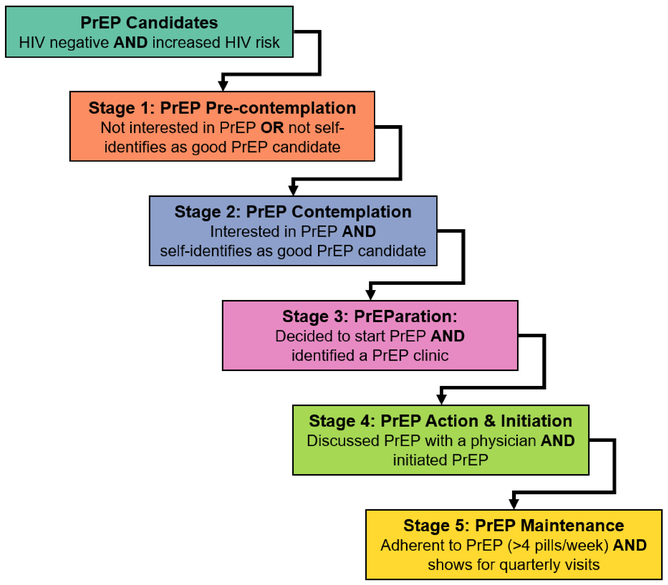
BACKGROUND

- In recent studies, HIV incidence among MSM in Peru was >5/100 person-years. PrEP scale-up is urgently needed.
- The Motivational PrEP Cascade (MPC) uses constructs derived from the Transtheoretical Model (Fig. 1) and explains dynamic movement on a PrEP continuum including planning, uptake, and persistence.
- We aimed to describe key MPC stages/substages and interest in tailored mHealth interventions among Peruvian MSM at the initiation of the Peruvian National PrEP Program in mid-2023.

Figure 1: Motivational PrEP Cascade (MPC) constructs: stages and corresponding substages



METHODS

- We conducted an online survey from June-August 2023.
- MSM were recruited through social media ads.
- After informed consent, respondents answered a survey on demographics, sexual behavior, MPC substages (Fig 1), smartphone use, and mHealth preferences.
- Only objectively identified PrEP candidates based on Peruvian National PrEP Program guidelines (HIV negative by self-report with condomless anal sex in past 6 months) were included in this analysis.
- We describe the distribution of MSM by MPC substages and identified associated factors using multivariate Poisson regression.

Figure 2: Motivational PrEP Cascade (MPC) in Peru

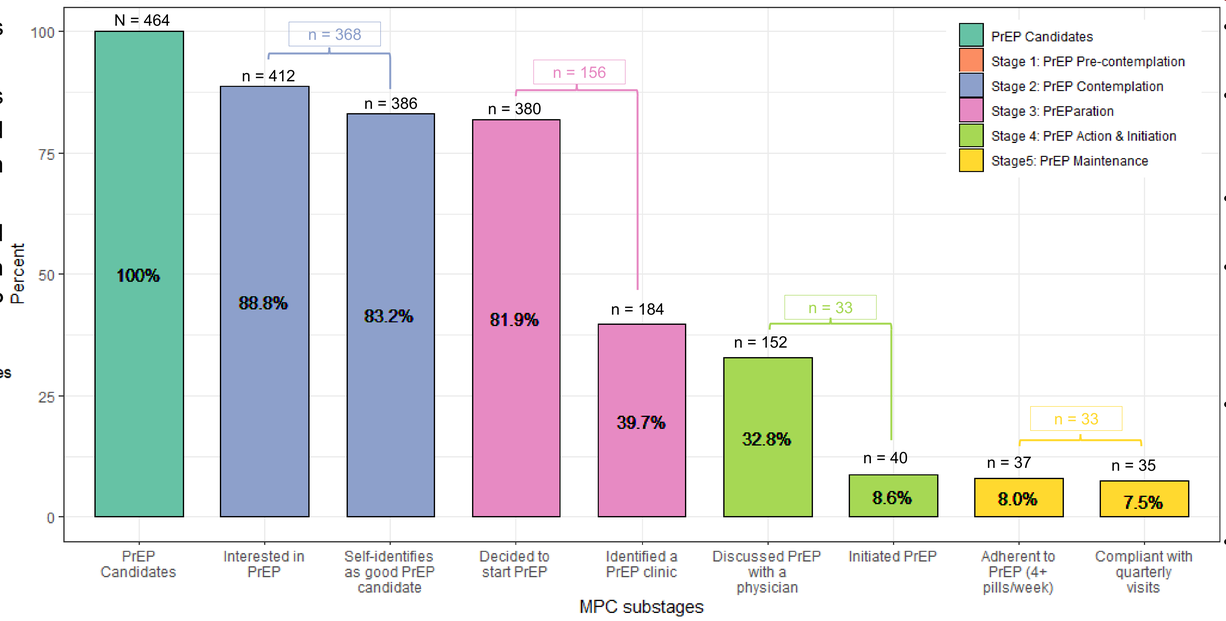


Table 1: Associations of selected covariates* with key MPC steps (adjusted prevalence ratio with 95%CI**)

Covariates	PrEP candidates N = 464	Interested in PrEP (88.8%)	Self-ID as good PrEP candidate (83.2%)	Decided to start PrEP (81.9%)	Identified a PrEP clinic (39.7%)	Discussed PrEP with physician (32.8%)	Initiated PrEP (8.6%)	Adherent to PrEP (8.0%)
Post-secondary education	57.5%	1.0 (0.8-1.3)	1.0 (0.8-1.3)	1.1 (0.9-1.4)	1.0 (0.7-1.4)	1.4 (1.0-2.0)	1.5 (0.7-3.4)	1.8 (0.8-4.4)
Income ≥US$550 per month	32.3%	1.0 (0.7-1.2)	0.9 (0.7-1.2)	0.9 (0.7-1.1)	1.4 (1.0-2.0)	1.0 (0.7-1.5)	**3.0 (1.4-6.4)**	**2.8 (1.3-6.2)**
≥5 anal partners in past 6 months	37.5%	1.0 (0.8-1.3)	1.1 (0.9-1.3)	1.1 (0.9-1.3)	1.2 (0.9-1.7)	1.4 (1.0-1.9)	**2.3 (1.2-4.7)**	**2.6 (1.3-5.5)**
Former research participant	25.2%	1.0 (0.8-1.3)	1.1 (0.8-1.4)	1.1 (0.8-1.3)	**1.4 (1.0-2.0)**	**2.3 (1.6-3.2)**	**5.8(2.9-12.3)**	**6.1(3.0-13.4)**
Unsure of HIV status	11.2%	1.0 (0.7-1.3)	1.0 (0.7-1.4)	0.9 (0.6-1.2)	0.8 (0.5-1.4)	0.7 (0.4-1.2)	0.3 (0.0-1.3)	0.3 (0.0-1.5)
Self-perceived at HIV risk	78.2%	1.2 (0.9-1.5)	1.2 (1.0-1.6)	1.3 (1.0-1.7)	0.9 (0.6-1.2)	1.1 (0.7-1.6)	1.1 (0.5-2.5)	1.2 (0.5-2.7)
Have costs concerns	89.4%	1.2 (0.8-1.6)	1.1 (0.8-1.6)	1.1 (0.8-1.6)	0.9 (0.6-1.5)	0.8 (0.5-1.4)	1.1 (0.5-3.2)	1.0 (0.4-3.0)

*Each model additionally adjusted for age, city, STI diagnosis, transactional sex, condom use, and partner HIV status

**bolded: p-value<0.05

RESULTS

- Among the 464 eligible respondents, median age was 29yo (IQR: 25-35).
- Most respondents earned <US$550/month, lived in Lima/Callao, had post-secondary education, and <5 anal sex partners in the past 6 months.
- Most respondents were aware of PrEP (92.0%) but were less aware of existing PrEP access mechanisms (51.1%).
- Fig. 2 depicts key MPC substages, showing a steep drop from deciding to start PrEP (81.9%) to identifying a PrEP Clinic (39.7%), and from discussing PrEP with a physician (32.8%) to PrEP start (8.6%).
- **The MPC identified respondents reaching the PrEP Pre-contemplation (20.7%), PrEP Contemplation (79.3%), PreParation (33.6%), PrEP Action & Initiation (7.1%), and PrEP Maintenance (7.1%) stages.**
- In multivariable regression (Table 1) MPC steps were associated with income, number of sex partners and past participation in research.

mhealth intervention possibilities

- Almost all respondents owned a smartphone (97.8%) and wanted to receive information on their smartphones about PrEP (82.9%), PrEP access mechanisms (84.3%), and PrEP adherence reminders (79.1%).
- Respondents were interested in bidirectional communication about PrEP via Whatsapp (87.7%), a customized mobile app (81.2%), phone calls (67.0%), SMS (62.7%), or social media (54.1%).

CONCLUSIONS

- Peruvian MSM who completed an online PrEP survey when the Peruvian National PrEP Program began showed great interest in PrEP, self-identified as good PrEP candidates, and/or had decided to start PrEP.
- However, most MSM struggled to progress to later MPC steps, highlighting access barriers outside of research studies.
- The MPC could help identify subgroups with unique informational and/or skill development needs, which can be used in the design of tailored mHealth interventions supporting the Peruvian National PrEP Program implementation.