

PrEP-Related Barriers Among Men Who have Sex With Men in Brazil, Mexico and Peru

Vincent B. Ofori¹, Ryan D. Assaf¹, Kelika A. Konda², Thiago S. Torres³, E. Hamid Vega-Ramirez^{4,6}, Oliver A. Elorreaga-Reyes², Dulce Diaz-Sosa⁶, Steven D. Diaz⁴, Cristina Pimenta³, Hugo López-Gatell⁵, Rebeca Robles⁶, Beatriz Grinsztejn³, Carlos Carceres², Valdilea Veloso³, for the ImPrEP Study Group

1. University of California Los Angeles, Los Angeles, CA, USA, 2. Universidad Peruana Cayetano Heredia, Lima, Peru, 3. Instituto Nacional de Infectología Evandro Chagas (INI/Fiocruz), Rio de Janeiro, Brazil, 4. Clínica Especializada Condesa, Mexico City, Mexico, 5. National Institute of Public Health, Mexico City, Mexico, 6. National Institute of Psychiatry, Mexico City, Mexico

BACKGROUND

- Little is known about PrEP-related barriers in Latin American countries
 - PrEP has been publicly available in Brazil since early-2018 and through implementation projects in Mexico and Peru since mid-2018
- The Implementation PrEP Project (ImPrEP) is a transnational project designed to explore the feasibility, acceptability and cost-effectiveness of PrEP among MSM and transgender people in Brazil, Mexico and Peru
- Our subanalysis examined factors associated with PrEP-related concerns that lead to barriers among MSM when deciding whether or not to use PrEP in these countries

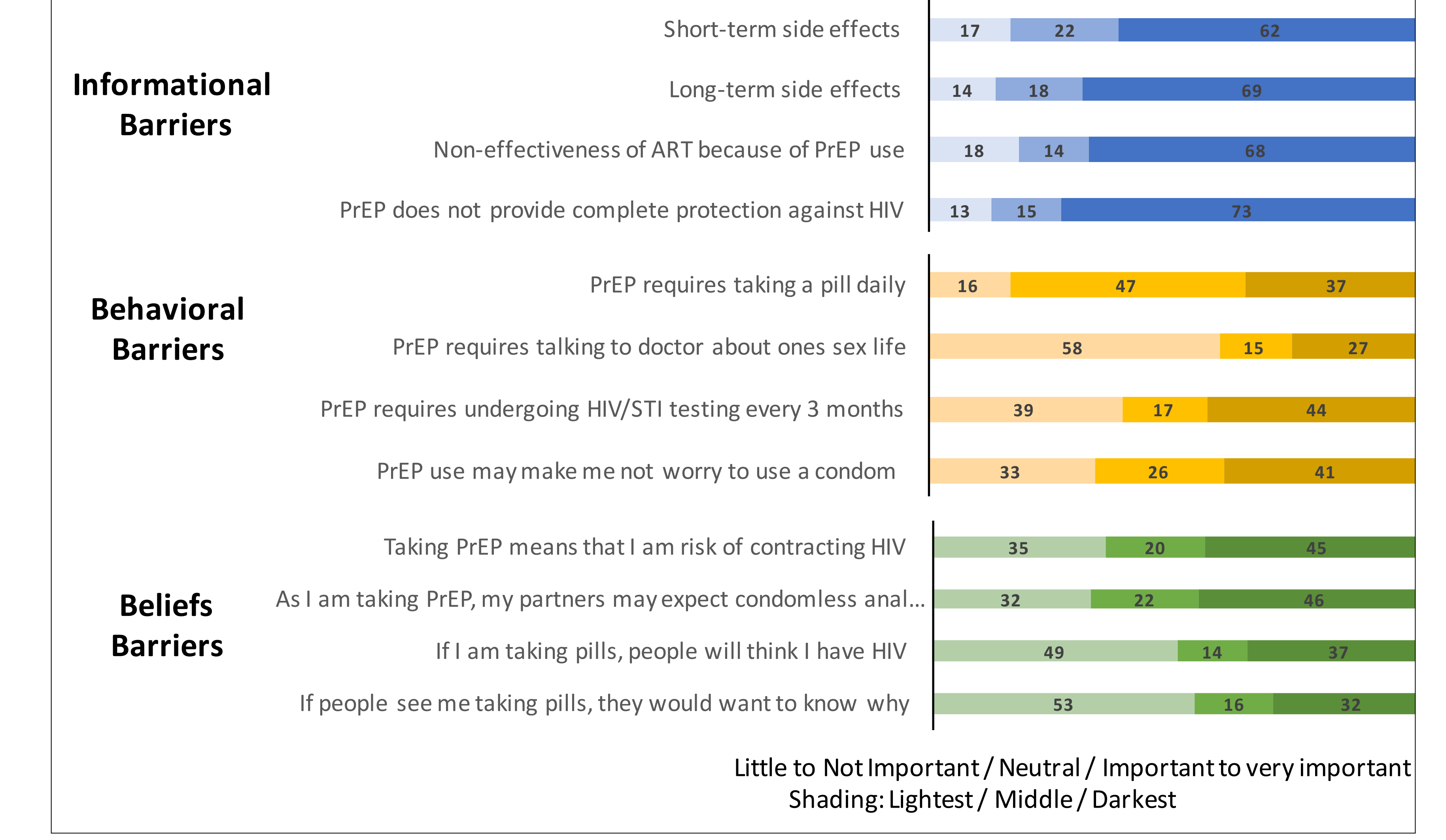
METHODS

- We conducted an online survey with MSM who were recruited via two gay social networking apps (e.g., Hornet and Grindr) and a social networking site, Facebook
- MSM were asked about 12 PrEP-related concerns on a 5-point Likert scale
 - Concerns rated 1-2 on the Likert scale were categorized "Little to Not Important"; concerns rated 3 were categorized as "Neutral"; and concerns rated 4-5 were considered "Important to Very Important"
- Questions on PrEP-related concerns were then categorized into 3 domains: **informational**, **behavioral** and **belief** barriers
 - Concerns relating to drug efficacy or effect were categorized as "Informational Barriers"; concerns relating to physical activity were categorized as "Behavioral Barriers"; concerns relating to social impact were categorized as "Belief Barriers"
 - Responses, by domain, were then summed to create three continuous outcomes for regression analysis
- Multiple linear regression was conducted to explore variables associated with each outcome using Stata14

RESULTS

- Of the 43,687 participants who started the survey, 19,457 MSM completed the survey and 10,165 MSM were eligible for PrEP and remained for analysis after dropout and application of exclusion criteria.
- Characteristics of the survey respondents were:**
 - Median age is 28 (IQR: 24-34)
 - Brazilian (58.4%), Mexican (29.6%), Peruvian (11.1%)
 - Most respondents had completed secondary education (59.9%)
 - Most were low to middle income (82.7%)
 - Respondents' reports of HIV testing within the last 6 months (45.7%)
 - Most respondents were aware of PrEP (64.9%)

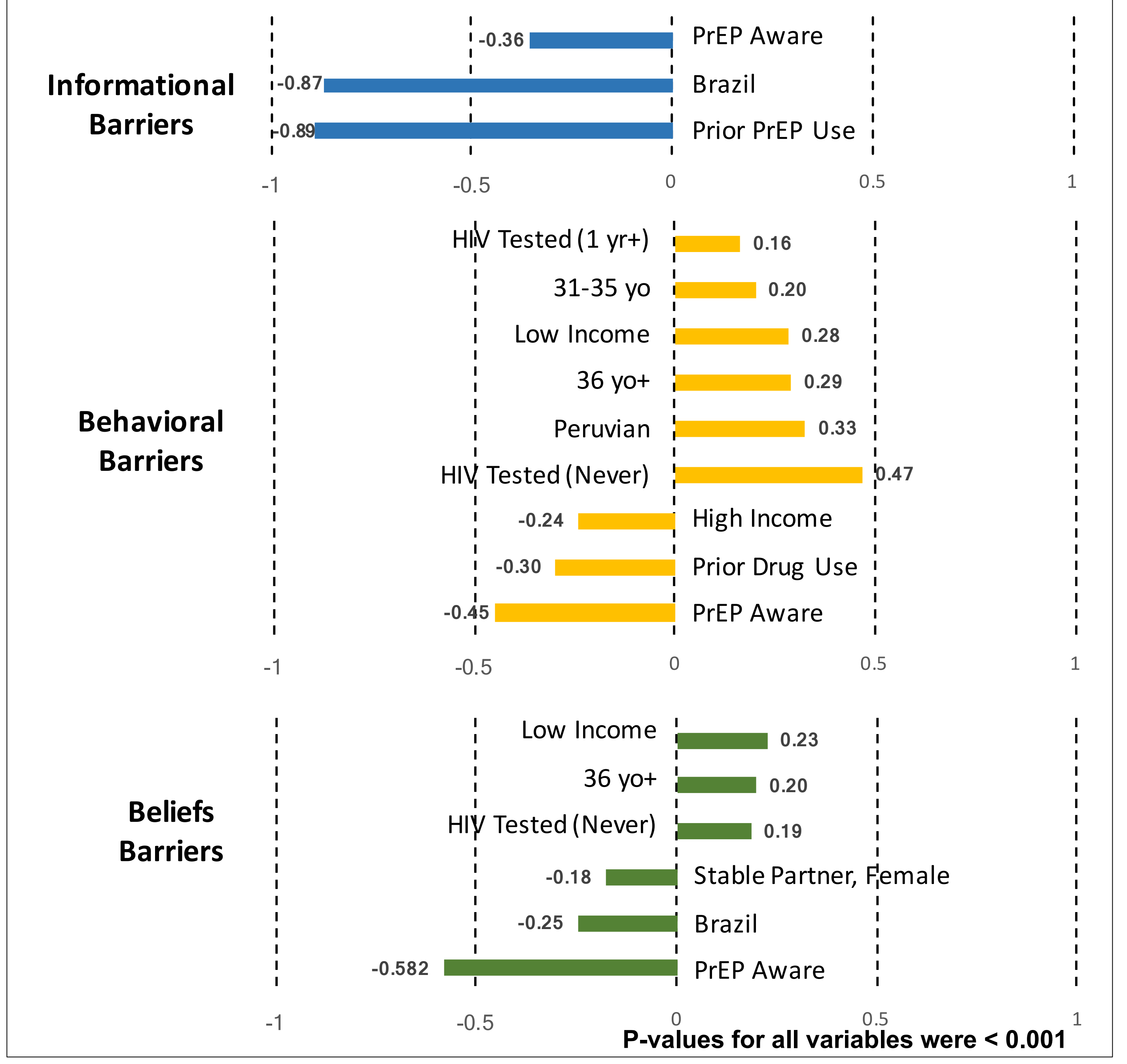
Figure 1. Informational, behavioral and belief related PrEP barriers among MSM in Brazil, Mexico & Peru



- Overall, concern regarding **informational** barriers was higher than **behavioral** or **belief** barriers, Figure 1
- With regard to **behavioral** barriers, concerns about "taking pills daily" or "talking to a doctor about their sex life" were neutral and little to not important, respectively; whereas concerns regarding quarterly "HIV/STI testing: and "not worrying to use a condom" were considered important to very important by a majority of respondents
- With regard to **belief** barriers, concerns about perceptions of others "thinking I have HIV" or "wanting to know why I'm taking pills" were little to not important; whereas perceptions of "risk of contracting HIV" and "partners expecting condomless sex" were considered important to very important by a majority of respondents

RESULTS

Figure 2. Variable effect* on PrEP barriers for MSM in Brazil, Mexico & Peru



*Effects shown are the regression model coefficients:
 • Values < 0 indicates a reduction in worry within a domain
 • Values > 0 indicates an increase in worry within a domain

•Reference categories for **informational barriers** were individuals: 18-24 years old, from Mexico, with a high school education, middle class, who has not taken PrEP and is not aware of PrEP, and is low risk for HIV. In addition to these references, **behavioral barriers** also included individuals who: do not use drugs, had an HIV test within the last 6 months; and for **belief barriers** those who had an HIV test within the last 6 months, and were not in a stable relationship

The average B₀ coefficients were:
 • 17.24 of 20 for worry due to **Informational barriers**
 • 12.32 of 20 for worry due to **Behavioral barriers**
 • 17.62 of 20 for worry due to **Belief barriers**

KEY POINTS

- Of the barriers, **informational barriers** involving drug efficacy and effect were most concerning for respondents, (Figure 1)
- A majority of respondents had concerns about quarterly HIV/STI screening and decreased condom use in the **behavioral barrier** domain, (Figure 1)
- In the **belief barrier** domain, respondents were concerned about partners requesting condomless sex and personal beliefs that PrEP means high risk of contracting HIV versus little to no concern about others thinking they're HIV positive or asking why they're taking pills, (Figure 1)
- Being PrEP aware constituted reduced worry across all three barrier domains: **informational**, **behavioral**, and **belief**, (Figure 2)

Results, Figure 2 continued

- In the **informational barrier** domain respondents who were PrEP aware, had prior PrEP use and Brazilian had reduced worry
- In the **behavioral barrier** domain respondents who were PrEP aware, had prior Drug use and high income had reduced worry
- In the **belief barrier** domain respondents who were PrEP aware, had a stable female partner and Brazilian had reduced worry

CONCLUSIONS

- Our results suggest that respondents with low income, who were older than the median age of 28, and who testing for STIs outside of WHO recommendations for high risk individuals (e.g., 1 year or never tested) exhibited increased worry across behavioral and belief domains
 - This findings suggest that educational interventions targeting this populations may increase PrEP uptake
- Our finding also indicate that those with prior knowledge of PrEP or "PrEP aware" had reduced barrier scores across all domains
 - These findings indicate that PrEP barriers are likely amenable to interventions promoting PrEP awareness
- In conclusion, interventions providing drug education and promoting awareness will likely reduce PrEP-related barriers, increase its uptake, and reduce HIV incidence in these countries.

ACKNOWLEDGEMENTS

This project is made possible thanks to Unitaid's funding and support. Unitaid accelerates access to innovative health products and lays the foundations for their scale-up by countries and partners.