

A pilot study of a mobile app (UPrEPU) to self-monitor daily/event-driven PrEP adherence for men who have sex with men

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Background

UPrEPU app is a self-monitoring tool to improve PrEP adherence regardless of the MSM users' choices of dosing regimens.

- ▶ Accommodating to either event-driven and daily PrEP with an indicator for drug concentration
- ▶ Features include sex and PrEP diary, geo-location of HIV/STI testing and PrEP information and video
- ▶ The aims of this pilot study are to evaluate the usability of UPrEPU app and the effectiveness of adherence monitoring



Indicator for drug concentration

▲ Sex and PrEP diary

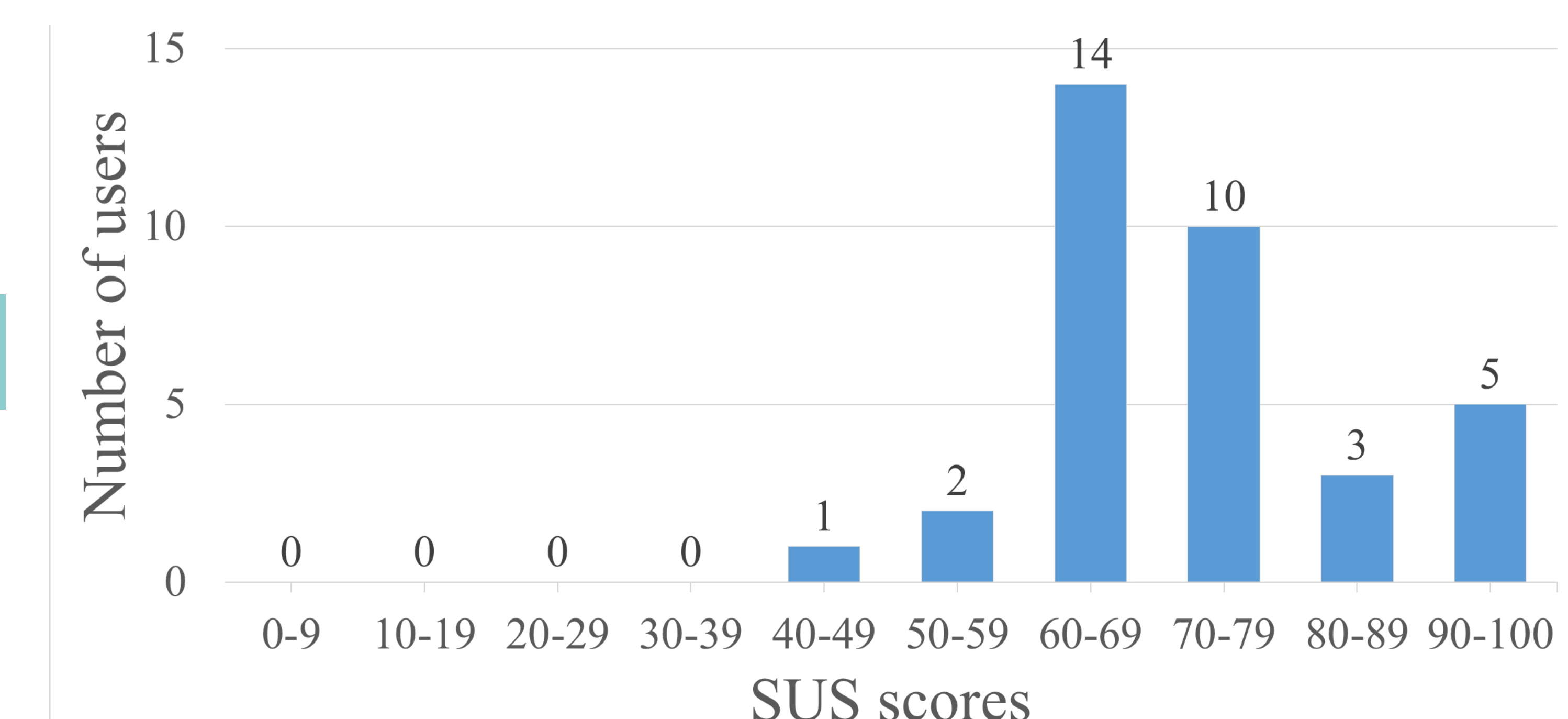
Methods

- ▶ HIV-uninfected MSM aged above 20 years who were currently on PrEP or willing to initiate PrEP, able to understand, read, and speak Mandarin Chinese.
- ▶ Usability of this app was measured using the systematic usability scale (SUS). A score above 50 out of 100 indicates acceptable.
- ▶ The effectiveness of adherence between app data and DBS were estimated.

- ▶ 1872 pill taken records
- ▶ 572 sex event records in the app.
- ▶ More than half of participants (57.1%) switched between daily and event-driven PrEP (event-driven and no switch: 40%; daily and no switch: 2.9%).

Systematic usability scale

UPrEPU app acceptability was high with a mean SUS score of 71.5 (SD: 12.4).



Results

- ▶ Study period: May 2020 to October 2020
- ▶ Participants: 35 participants were enrolled and retention was 91.4% (32 participants) at the end of study.
- ▶ No participant acquired HIV infection during the 4 months follow-up.

- ▶ Nearly half of participants have a consistent result comparing their self-reported PrEP taken in the app and the DBS concentration (43.8%). The agreement between PrEP taking logs and the result of DBS was moderate (weighted Kappa: 0.42).

Conclusions

- ▶ The UPrEPU app showed high acceptability in both daily and event-driven MSM PrEP users.
- ▶ The consistency between self-reported PrEP-taking in the app and DBS concentration was not high.
- ▶ Improvement of app features and usability should be further explored to serve as a better self-monitoring tool for PrEP users.

