

## Use of Cell Phone Diaries to Understand Risk Contexts of Sexual Events Among Female Sex Workers

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### Abstract

**Background** Data collection using mobile technologies, such as cell phones, allows more frequent and real-time data collection and is less prone to recall bias. We describe the feasibility of using twice daily cell phone diaries to capture contextual features of STI/HIV-risk that could impact disease acquisition among female sex workers (FSW).

**Methods** Women engaging in transactional sex in the prior 90 days were recruited utilising incentivized snowball sampling. Participants completed STI testing and baseline/exit surveys. Over 4-weeks, they completed twice-daily electronic diaries assessing event-level sexual behaviour, condom use, and drug use. Weekly in-person interviews used open-ended questions to explore geographical characteristics of sexual encounter locations as well as acceptability of event-level monitoring.

**Results** 25/26 participants (median age 43.5 years) completed the 4-week study. At baseline, 27% tested positive for a STI. Participants completed 84.5% of 1,518 expected surveys and 95% of 106 expected interviews. Patterns of diary compliance were stable over time. Partnered sexual activity was captured in 21.4% of diaries. At the participant-level, most reported giving oral sex (84.7%) or vaginal sex (96.1%); fewer (19.2%) reported engaging in anal sex. Among women reporting partnered sexual behaviour with any partner type (i.e., new/regular customers, romantic partners), using condoms was reported 39.2%, 45.5% and 83.3% of the time for giving oral sex, vaginal sex, and anal sex respectively. At the event-level, the frequency of giving oral sex, vaginal sex or anal sex did not significantly change over time.

**Conclusions** It is feasible to engage and retain FSW in a technologically-advanced study to characterise risk contexts of sexual events. Adherence to study protocol was high indicating event-level monitoring using cell phone based diaries is acceptable. These data can be utilised to improve our understanding of the individual, relational and environmental factors that influence STI/HIV acquisition among FSW.

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