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Role of Information in Reducing HIV Risk in Senegal: Case Study Describing Lessons-Learned from a Community-Based Behavioral Intervention and a Medication-Based Intervention Senteio, C.R.¹, Gueye, D.², Sarr, M.², Mboup, A.², Mboup, S.² ¹ Rutgers University, ² Institut de Recherche en Santé, de Surveillance Epidémiologique et de Formation (IRESSEF)

Background

- 35.3 million people are living with HIV/AIDS; 70% of those infected live in sub-Saharan Africa and 58% of those infected in this region are women(1)
- Various interventions educate and promote healthy behavior to reduce transmission risk(2) and medication (e.g., HIV Pre-Exposure Prophylaxis (PrEP))(3).
- Sexual health education provides risk information and steps to reduce risk(4), and they have been tailored for individual and environmental circumstances, specifically for women(5). But, access to accurate and easy to understand sexual health information remains a barrier to reducing HIV risk behavior(6, 7).
- Despite the need to consider biomedical, behavioral, and socio-cultural factors(8), literature has not described how to design and execute community health informatics interventions using both health educational and pharmacological approaches known to reduce HIV transmission risk.
- We summarize two interventions which used proven approaches to reduce HIV risk based in Dakar, Senegal – PROMISE (behavioral) and PrEP (medication) – to answer the following research question: What is the role of information in designing and conducting an HIV education and prevention intervention for highrisk groups based on lessons learned from a behavioral and a medication-based intervention?

PROMISE – Information & Education (2011-2014)

- Conduct & assess efficacy of community-level STI/HIV prevention intervention using mobile phones to provide health information to female sex workers (FSWs) • Trained **peers** to use mobile Bluetooth technology to disseminate sexual health
- 4 "districts" in Dakar. Peer educators led the evaluation via daily activity logs which documented participant interactions from Nov. 2013 – Feb. 2014.
- 6,353 FSWs were reached at least once; 203 information, education, and communication (IEC) sessions were attended by 392 FSWs and 3,035 men, clients of FSWs
- Video "stories" on mobile phone were important to reach target populations due
- to prevalence of mobile phones and low literacy.
- However, some peer educators found using the Bluetooth technology challenging

PrEP– Daily Medication (2014-2018)



- Phase 1, Feasibility (April-July, 2015) observations at 4 MoH-clinic sites, interviews with policy-makers, program managers, (medical) service providers, and community members and focus groups with registered & unregistered FSWs
- Phase 2, **Demonstration** (July, 2015 Dec., 2016) provide daily PrEP with FTC/TDF for FSWs at MoH-clinics, in addition to PrEP-recommended clinical and laboratory exams. Potential participants were screened, then enrolled, with a followup period lasting 14 months.
- Results Conclusions

Overview

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Conclusions

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- 350 FSWs were screened and 267 (82.4%) HIV-negative FSWs were enrolled. Of 350, 92.6% (324/350) were eligible but 16.3% (57/350) did not enroll. Mean age 37.6 years (SD=9.0) and half had never attended school (46.1%). Daily PrEP uptake was considerable, 82.4% (267/324)
- Barriers to uptake: "failed to remember" (20%), "too busy" (18%), and "ran out of medication" (14%). Despite the recommendation for daily PrEP dosage, some reported that they did not take medications when they "did not feel at risk". Focus group participants expressed concern about possible stigmatization from using PrEP: "people seeing us taking PrEP might think we are HIV positive".
- High acceptance, uptake and efficacy among FSWs when offered in MoH-run clinics, important given their potential to expand PrEP access across Senegal(12) However, FSWs found daily PrEP very challenging due to mobility, stigma, and burden of daily medication.

information via role model "stories" (videos) to female sex workers (FSWs).

- remained

- daily PrEP.
- around the world.



Results

Place and **time** and **medium** were critical to the accessibility of health information.

Despite community-based efforts to include members of the study population in critical decisions concerning how the PrEP intervention was designed and executed, opportunities for further clarification

Interventions should incorporate how access to health information is empowering, even among the utmost vulnerable populations.

The large scale of PROMISE, and the use of peer educators in health promotion efforts targeting FSWs, illustrates stage two of a four stage community empowerment model used to assess community empowerment in advocating for FSWs(9).

Discussion

Offers vital **context** to design and execute interventions that promote access to information and and healthy behavior for vulnerable populations

For PROMISE, technology was a key factor in scalability, but also a source of challenges, **consistent** with literature for low-literacy populations (10). Transient nature of FSWs was obstacle for

Providing access to accurate, socially and culturally appropriate health information is important to inform the design and execution of interventions that attempt to translate **basic** (e.g., PrEP) and **clinical** research (e.g., PROMISE) to personal behaviors that show the potential of improving health and wellness.

For future work, community health informatics and information science researchers focused on translation from the "bench" (and clinic) to communities should consider findings concerning enabling access to information and persistent **barriers**, especially for vulnerable populations