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Assessing Acceptability, Feasibility and Deliverability of Prep Among Female Sex Workers in Brothel Settings

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Running head:
Assessing acceptability, feasibility and deliverability of Pr EP

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Abstract

A feasibility study on oral Pr EP was undertaken in So nag chi, a red-light district in Kolkata, to assess acceptability, accessibility and deliverability among the female sex workers as well as to find out the underlying factors that might play a critical role in influencing decisions of sex workers in accessing Pr EP, including adherence to medicine. The study includes both quantitative and qualitative tools and methodologies. 95% of sex workers who showed interest in taking Pr EP and expressed willingness to take part in the forthcoming Pr EP demonstration project. Majority of them shared that they will continue to enforce condom use by their clients while taking Pr EP. Participants coined Pr EP as means for 'double protection'. Respondents shared that sometimes they had to travel outside of their brothels to entertain clients, and in those unknown cruising sites, it become more difficult to enforce condom use. In many such difficult circumstances use of Pr EP could provide a sense of assurance and protection. The use of Pr EP, they believe, would alleviate their fear and anxieties in getting HIV infection. One of the participants shared that Pr EP would empower them and provide a sense of freedom. Most of the sex workers who participated in the study shared that being in this sex profession, they always live in fear and apprehension in getting HIV infection. Pr EP would reduce this anxiety and provide peace in minds. Anything that reduces the chances of transmission of HIV in sex work settings is always welcome by them. They expressed their willingness to take the medicine along with the consistent use of condoms.

Keywords: Pr EP, Feasibility, Acceptability, Sex Worker, Condom

Introduction:

Pre-exposure prophylaxis or "Pr EP" refers to use of antiretroviral medication by HIV-uninfected individuals to prevent an HIV infection. The efficacy of oral Pr EP has been established in a number of randomized control trials in men who have sex with men (iPr Ex)[1], serodiscordant couples (Partners Pr EP)[2], sexually active young adults (TDF2)[3] and among injecting drug users (CDC Bangkok IDU trial)[4]. The efficacy of topical Pr EP using co it ally-dependent dosage has

[1]Grant R et al. Preexposure chemoprophylaxis for HIV prevention in men who have sex with men. N Engl J Med 2010; 363:2587-99.

[2]Baeten JM et al. Antiretroviral prophylaxis for HIV prevention in heterosexual men and women. N Engl J Med 2012; 367:399-410.

[3]Thigpen MC et al. Antiretroviral Preexposure prophylaxis for heterosexual HIV transmission in Botswana. N Engl J Med 2011; 367:423-34.

[4]Choopanya K et al. Anti-retroviral prophylaxis for HIV infection in injecting drug users in Bangkok, Thailand (the Bangkok Tenofovir Study): a randomized, double-blind, placebo-

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shown to be effective in one study[5]. Drawing from these evidences, WHO recommends undertaking of feasibility studies to comprehend how best Pr EP could be delivered to those most in need[6].

After years of HIV prevention efforts, especially condom promotion, rates of consistent condom use is estimated around 80-90% in sex workers settings in India. However, all efforts to push consistent condom use beyond this threshold level have been unsuccessful to date. The possibility of having a supplementary prevention tool to offer sex workers who have difficulties in negotiating condom use with their intimate partners and a considerable proportion of casual clients could be an additional weapon in the armoury of AIDS prevention program. Keeping this objective in view, Durbar Manila Samanwaya Committee (DMSC), the largest sex workers' collective in South East Asia undertook a mixed method feasibility study to assess acceptability, affordability and deliverability of oral Pr EP among sex workers living in brothel setting in the city of Kolkata, India.

Background

As per UNAIDS Fact Sheet 2016, 36.7 million people are living with HIV and during the year 2016, among the infected individual 34.5 million were adults, out of which 17.8 million were women. No less than 1.8 million people newly infected with HIV in the year 2016 and around 1 million people died from AIDS-related illnesses during the same year.
India has the third highest estimated number of people living with HIV in the world. The projected number of people living with HIV/AIDS in India is around two million and the prevalence of HIV stands at 0.27%. However, India has demonstrated an overall reduction of HIV infection by 57% within a span of 11 years[7] (down from two hundred and seventy-four

controlled phase 3 trial. Lancet (on line) http://dx.doi.org/10.1016/S0140-6736 (13)61127-7June 13, 2013.

[5]AbdoolKarim Q et al. Effectiveness and safety of tenofovir gel, an antiretroviral microbicide, for the prevention of HIV infection in women. Science 2010; 329:1168-74.

[6]WHO. Guidance on pre-exposure oral prophylaxis (Pr EP) for serodiscordant couples, men and transgender women who have sex with men at high of HIV: recommendations for use in the context of demonstration projects.

http://apps.who.int/iris/bitstream/10665/75188/1/9789241503884_eng.pdf

[7] NACO Annual Report 2013 – 2014. National AIDS Control Organization India, Department of AIDS Control, and Ministry of Health and Family Welfare.

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thousand [274,000] in 2000 to one hundred six thousand [106,000] in 2011). The latest National IBBS (Integrated Biological and Behavioural Surveillance)[8] data of 2014-2015 has shown that the average HIV prevalence among Female Sex Workers is around 2.2%, among Men who have Sex with Men [MSM] is around 4.3% and among Injecting Drug Users, the average prevalence of HIV is recorded as 9.9%.

Characteristics of the study site,

An HIV in terventi on program among sex workers was initiated as early as 1992, in one of the largest red-light district named So nag chi in Kolkata, India. The So nag chi HIV Intervention Program demonstrated success in reducing HIV transmission among female sex workers (FSWs) through adopting a combination of strategies which includes Behaviour Change Communication with the use of Peer Educators (e.g. sex workers trained to work as health worker), Condom programming, STI management services in addition to Structural Interventions. The leadership of the So nag chi intervention program adopted a strategy to enable and empower sex workers through a process of collectivization and leadership building of sex worker which ultimately led to the development of the largest sex workers' collective known as Durbar Mahila Samanwaya Committee (DMSC), which represent voices of sixty thousand sex workers, in the state of West Bengal, India. The sex worker collective made a significant difference in changing the social and cultural norms in the milieu of sex work particularly in brothel setting. The very strategy to help mobilize community members as collective proved to be a very effective and useful approach to address HIV transmission among sex workers. The very strategy was later integrated into the National AIDS Control Program in India which is coined as 'community organizing and ownership building'. This unique element of HIV intervention was adapted not only for the sex workers but for all other MARPS (Most at Risk Populations) e.g. Transgender, Men Sex with Men and Injecting Drug Users in Indian National program steered by the Ministry of health, Government of India.

DMSC, with an objective to further strengthen HIV intervention program carried out a Feasibility Study on Pr EP. The objective was to explore sex worker's interest and level of acceptance of oral Pr EP[9,10], and to find out possible mechanism to deliver Pr EP in sex work settings as well as to assess issues and challenges in connection to adherence to Pr EP. The study was supported by the World Health Organization, Geneva Office. The said research was

[8]National Integrated Biological and Behavioural Surveillance data (2014–2015).

[9]Caceres CF, O'Reilly KR, Mayer KH, Baggily R. PrEP implementation: moving from trials to policy and practice. *PrEP Implementation Science: State-of-the-Art and Research Agenda* 2015; 1.

[10]Caceres CF, Koechlin F, Goicochea P, Sow PS, O'Reilly K, Mayer K, et al. The promises and challenges of pre-exposure prophylaxis as part of the emerging paradigm of combination HIV prevention. *Journal of the International AIDS Society* 2015; 18(4 Suppl 3): 19949. doi: 10.7448/IAS.18.4.19949PMID: 26198341

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undertaken in the backdrop of an ongoing debate; whether introduction of Pr EP would strengthen the trend of 'over medical inaction of HIV intervention program' or Pr EP would help empower sex worker to protect themselves from acquiring HIV. The other concern was to determine whether female sex workers would be able to comprehend the short and long-term consequences of Pr EP medication[11].

Study Rationale

Inspired by the success of HIV intervention program in India, NACO (National AIDS Control Organization), the nodal body for HIV prevention and care activities, developed an expanded strategy to ful fill the objective of '0' transmission by 2020 with the inclusion of newer preventive tools and technique which includes community-based testing, 'Test and Treat' among others[12]. Oral Pr EP, though not included in the present strategy, was a pertinent issue for debate and discussion for future inclusion, particularly for the most at risk (MARPs) and vulnerable population.

Study Methodology

The feasibility study took place between December2013 to March 2015 in So nag chi which includes both qualitative and quantitative research methodologies. For quantitative study sample was drawn randomly from the total pool of sex workers living in the so nag chi brothel what is considered as universe for the feasibility study.

Participants of the feasibility study include female sex workers (FSWs) who are 18 years of age or above and are currently practice sex work. The quantitative research was conducted to assess the percentage of sex workers showing interest and willingness to use Pr EP followed by the qualitative study was undertaken to better understand reasons for accepting Pr EP as well as to identify possible barriers and enablers in brothel setting what directly or indirectly influence the decision making process of sex workers. Another area of investigation was to find out whether use of Pr EP could impede consistent use of condom among the sex workers. The other objective of the qualitative study was to comprehend the possible role of other stakeholders in the sex trade who among them could motivate or inform the decisions of sex workers in accepting Pr EP as well as help reinforcing daily uptake of Pr EP to ensure adherence. Lastly, the qualitative study also examined the possible challenges a sex worker might perceive while taking Pr EP. The study also focuses on the health care seeking behaviour of sex workers with a view to examine adherence to Pr EP in forthcoming Pr EP Demonstration Project.

Building Awareness on Pr EP

Meeting was held with the committee members of DMSC and Peer educators of the HIV intervention program to assess their knowledge about Pr EP. It was revealed that very few among the community members including peer educators heard about Pr EP. A series of group meeting

[11] Briefing Paper on 'PrEP' by Global Network of Sex Work Projects

[12] Mid Term Appraisal of National AIDS Control Program Phase IV, August 2016

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was held to inform community members regarding the use of Pr EP including the mechanism through which Pr EP medication prevent transmission of HIV. Issues discussed in the meeting includes possible adverse effects of the medicine and how to deal with minor side effects, why one should use Pr EP as part of combination prevention package and not to dilute the effort to use condom among others. Keeping in view the low level of literacy among the sex workers a Flip Chart was prepared in the local vernacular. Outreach and peer workers were given the responsibility to meet with the community members and to explain them about Pr EP. Altogether 45 Pr EP-related group discussions were held in So nag chi, each discussion lasts for around 45 minutes and each session was attended by 25-30 participants. Awareness campaigns lasted for nine months followed by the feasibility study was undertaken.

Data Collection

Quantitative study

For the quantitative interviews, a structured questionnaire was developed. Following pre-testing of the questionnaire the tool was applied to randomly selected sex workers from the So nag chi to explore sex workers' knowledge about Pr EP, their willingness to use Pr EP, identifiable facilitators and barriers in using Pr EP including their HIV risk taking behaviour.

Qualitative study

Qualitative data collection tools included Key Informants interviews (KI) and Focus Group Discussions (FGD) guides. FGDs were conducted in small homogenous groups of 7 to 10 participants. The categorization of these groups was based on their contractual agreements in the sex trade based on which a sex workers provide sex services, e.g. self-employed, madam-managed (i.e. where sex worker share 50% of her earnings with the madam). The third category of sex workers includes those who are in agreement with their landlords to share their income based on the number of clients served per day. Altogether 17 FGDs were conducted, out of which two were with madams, one with the intimate partner of caseworker and two with pimps and the rest twelve with general sex workers, belonging to different age groups and based on their different contractual agreements.

Altogether 30 Key in form an interview was undertaken. Key informants were selected from among the important stakeholders[12 in number] in the sex trade who have a significant knowledge base as well as who command some kind of authority in the process of transaction of sexual services in brothel settings. In addition to sex workers, leaders of local youth clubs were also included in the red-light areas (4 interviews). The other Key informant interviewees were selected from among the members of the local police and administration (2 interviews), representatives from the local business communities, and 4 interviews were taken from landlords and landladies (2 + 2). Private Medical practitioners operating in and around So nag chi area were also interviewed as key informants. [4 in number]

Sample size calculations and sample selection for Quantitative Study

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There are an estimated 7,000 sex workers who live in So nag chi. Without prior data on sex workers' willingness to use Pr EP, it was assumed that an expected proportion (ρ) of 0.50 will be willing to use Pr EP, so as to make a most conservative estimate of sample size. A sample of roughly 364 participants with a 5% margin of error and 95% confidence intervals (i.e. an alpha of 0.05) (Epi Info version 7.1.3) proved to be the sufficient number. All together 400 participants were recruited to account for a 10% refusal rate. A sample size of 400appeared to be a sufficient number for the study, with approximately 80% power to detect an odds ratio of 2.25 (given for the association of type of sex work with the primary outcome of willingness to use PrEP with an alpha of 0.05).

Sampling frame

A multistage random sampling technique was used to identify participants for the quantitative survey. A sample of brothels proportionate to the number of women working in each brothel was randomly selected from the list of all brothels. Sex workers who work in those randomly selected brothels were enumerated, followed by random sample of sex workers were taken for the study.

Prioritizing sex workers for Pr EP

Keeping in view the Goal set forward by the National Govt. of India to achieve 90-90-90 by 2020it is assumed that all sex workers should get the benefit of Pr EP as part of the combination prevention package. Keeping in view those resource constraints could be a barrier an attempt was made to develop a vulnerability matrix for sex workers based on which most vulnerable among all sex workers could be selected for the forthcoming Pr EP demonstration project. A 'Vulnerability Matrix' thus developed is based on several factors identified by the community members which includes age (young and aged sex workers),years in profession, sex workers having dependents, newcomers to sex work, sex workers with less number of repeaters clients, and sex workers having children, and sex workers suffering from depression from among many other possible determinants.

Informed Consent

Written informed consent was obtained from all the study participants. Consent forms were made available in regional languages and participants had the choice to respond in the language they are comfortable with. For sex workers who were not literate, consent was taken after providing all the necessary, relevant information, including her rights to withdraw from the study at any point of time and not to respond any question she chooses. Lastly, thumb impressions for those who can't sign on the paper what confirm her con sent for the study.

Qualitative Data Collection and Analysis

The FGD and in-depth interview guides were developed in English followed by translated to Bengali and vice versa to check whether both the translation carry the same meaning. Transcripts were coded for key themes and emergent categories. For the purpose of analysis the thematic elements were identified followed by content analysis was done. All efforts were made to ensure that qualitative findings are in commensurate with the response of the participants and as far as

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exhaustive in nature. Both continuous and categorical data were analyzed using SPSS (IBM, Version 23).

Study results:

Socio demographic profile of the participants

Among the respondents, around 60% were below the age of 29 years, out of which 30.5% belong to the age group of 18 years – 24 years, and 29.5% belong to the age group of 25 years – 29 years. 20.3% of the respondents were in the age group of 30 years to 34 years. The remaining participants belong to an older age group of which 2.5% were 45 years and above [Table no. 1].

Educational level

18.5% of the sex workers had studied in school between the 5thand 9thgrades only. Another 25.5% were found to be literate but having no formal schooling and 38.5% of sex workers were found to be illiterate. Only 3.5% of participants had completed schooling, i.e. completed 10th grade in schools and only three of them had studied undergraduate courses in universities [Table no. 2].

Marital Status

59.3% of the sex workers were married but separated from their husband, 23.7% of them are married and in a relationship with their husbands, 8.8% of them were found to be unmarried and the rest 8.2% are widowed [Table no. 3].

Having Children

78% of the respondents have children. Out of those having children, 48.7% reported to have only one child, 42.0% have two children, and 9.3% of them have three children or more. Among the respondents, 62.8% reported to have no intimate romantic partner, which in local terminology is called ‘babu’; the remaining 37.3% have intimate romantic partners. Among the sex workers who have intimate romantic partners, 63.1% of their partners live with the sex workers in their brothels and others live outside.

Condom use:

93% of the respondents shared that they use condom in all sexual encounters, 4.5% of them are ‘often users’ (i.e. condom use above 80% of all sex act) and 2.5% are in the category of ‘sometimes users’ (who uses condoms in between 60% to 80% of sex acts). 59.7% reported that they never use condoms with their ‘babus’ or intimate romantic partners [Table no. 4].

Discussions

Acceptability and or willingness to use Pr EP

Around 97% of the participants expressed their willingness to take Pr EP. It was also revealed that out of all who are interested in taking Pr EP, 99.7% of the sex workers expressed their readiness to undergo all requisite lab investigations as and when necessary per the Pr EP demonstration project. If Pr EP is given free of cost, 74.5% of them opined that they will take the

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medicine as long as required. 82.3% of the participants shared that they are willing to pay the cost of the pill (if not given free of cost) provided that the price is within 10 rupees per/pill which is roughly equivalent to ten US cents.

From the qualitative study, it appears that most of the participants are keen to use any available additional protective devices which could prevent them from acquiring an HIV infection. They felt that if condom and Pr EP are used simultaneously, it would protect them better, which they coined as 'double protection', Most of the key informant shared that Pr EP would help sex workers to deal with resistant clients who are not ready to use condom and in circumstances where they are incapable of enforcing condom use by their clients. They were happy in knowing that the Pr EP Demonstration program will be launched in the area soon. One of them said that "We, sex workers from So nag chi would be the first in the country who will be using PrEP for prevention. We are fortunate to be getting this opportunity."

Many of them were elated to know that just by swallowing one pill per day, they can prevent acquiring the HIV infection. In some circumstances, they have to work hard to convince clients to use condoms, whereas the use of Pr EP is under their control. One of them said that "I don't have to depend on my clients to use Pr EP and that provides me a sense of relief". Another participant said that, "I heard that Pr EP provides additional protection, so it is good for my health, having a single dose of medicine is so simple and hassle-free so I will take Pr EP certainly."

Who among the sex workers are more interested in Pr EP?

From the quantitative study, it was revealed that around 95% of the participants are keen to use Pr EP, out of which sex workers in the age group of 24 – 44 years showed a significantly higher rate of interest in comparison to other age groups. The study showed that there are no significant differences in choosing Pr EP among the participants in relation to their level of education, marital status and number of children or 'babus'. No difference could be observed in preferring Pr EP among respondents engaged in various contractual agreements in sex work.

From the FGDs, it was revealed that younger sex workers are more inclined to use Pr EP as the number of clients they serve per week is more in number than the number of clients 'served by the older sex workers. Secondly, some of them discussed that as they are new and have less experience in sex work, unlike their seniors, at points, they face more difficulties in enforcing condom use by their clients.

One of the younger sex workers shared: "I am in sex work for the last one year, many of my clients come to me, and I entertain them. I know condoms can protect me from getting HIV and STI infection. But I would like to avail Pr EP as an additional means of prevention".

Knowing HIV status and use of Pr EP

For routine medical checkups, 71.3% of the respondents shared that they have visited clinic regularly run by DMSC in the heart of the red light district once in every three months, whereas

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5% of them attended clinic twice in a year, and 1% of them attended clinic once in a year. 76.3% of the respondents undergone HIV testing within the last three months' time, whereas 12.5% of them have tested once during the last six months and 5% of the participants shared that they have tested once during the last one year of time and the remaining 4.3% said that they have never been tested for HIV. 97.4% of the respondents who have tested for HIV know their HIV status, leaving only 2.6% who are not aware of their HIV status, even though they have tested for HIV.

In the Focus Group Discussions, most of the participants shared their keen interest in taking Pr EP. Many participants stated that as they are presently HIV negative, they would like to use Pr EP so that their HIV negative status can be maintained. One of them stated: "I am not going to take any chance for my life. I need full protection for me so I will take Pr EP", another participant commented that "even though I try my level best to push condom with every client, I have to accept the fact that I may not be successful always". Another participant commented in similar fashion, "One can't guarantee condom use in all types of clients and in all circumstances, so Pr EP is very important to me".

Health seeking behaviour:

72% of sex worker shared that they have suffered from one or more symptoms suggestive of STIs during last one year, out of which 36.25% participants reported genital discharges, 32% reported experiencing pain during sexual intercourse and 7.25% of them said that they are diagnosed having genital warts.

97.2% of them who suffered from symptoms suggestive of sexually transmitted illness sought treatment whereas 2.8% did not report to the DMSC run clinic or to any other private physician. The aforesaid findings were discussed with them in the FGDs, pointing to the fact that they may not be using condoms in each and every sex encounter. Relatively long discussions were held with the participants and they came up with a number of reasons for the failure to use condoms. One of them shared, "Sometimes I drink alcohol with my clients and later forget whether I have used a condom or not which creates anxiety and anguish in me". One participant spoke of the risks of unsafe sex with her intimate romantic partner. She said, "I tried my level best to convince my babu (intimate partner) to use condoms but he is very adamant and I am always apprehensive of getting an infection from him".

Type and nature of sex practices vis-à-vis Pr EP

Among the sex worker respondents, 93.5% of them reported that they always engage in peon-vaginal sexual activities, 2.8% of the sex worker participants reported peon-oral sex with all their clients, while 5% of them reported that they sometimes engage in peon-oral activity with clients. Out of all respondents, 93% of sex workers reported that they always use condom with their clients when engaging in peon vaginal sex but hardly use protection during peon-oral sex activities. One of them mentioned, "As many clients want to have peon-oral sex in addition to peon-vaginal sex, where I can't use a condom, so I need Pr EP for my full protection".

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Risk perception of sex-workers vis-a-vis Pr EP:

In the quantitative study, 36.5% of the respondents felt that they have a high risk of getting an HIV infection, 22% of them believed that they are in a moderate risk zone, whereas 25% of respondents placed themselves in the lower risk category and 16.5% of them felt that they have no risks of getting an HIV Infection.

While carrying out FGDs with sex workers, the issues related to risk perception were discussed at length. It was revealed that this wide variation in HIV risk perception is intermingled with several other factors and issues. Their perception about their risk was based on their ability or inability to enforce safer sex with their clients, even though they knew that they are engaged in a high-risk occupation. Many of them felt that they would be able to enforce condom use while others have doubts about enforcing condom use with their entire client sand in all sexual intercourse what differentiated their perception about risk. Based on their individual ability to enforce safe sex, they place themselves in different risk categories. However, most of the sex worker showed eagerness to take Pr EP as an additional protective device. Some of them opined: "it is my body; and what is important to me is to keep myself healthy as I am in the sex work I need to protect myself from HIV infection through all possible and available means". Another participant shared that, "I wanted to be doubly sure; that's why I do HIV testing at regular intervals and to keep myself free from HIV, I will take the advantage of Pr EP"

Barriers in taking Pr EP

Plausible challenges as identified by the participants are primarily cantering around side effects of the medicine. 24.2% of them suggested that side effects of the medicine could be a barrier to continue with Pr EP. 7.8% of the respondents said that taking a medicine every day could be a challenge as they might forget to take the pill regularly. 1.3% of the respondents said that alcohol consumption could be a challenge while taking Pr EP. Additionally, 34.6% of the respondents felt that their intimate partners or babus may create problems in taking Prep. While 54.5% of the respondent said that the Irma dam will not influence their decisions in taking the pill. 13.1% of respondents reported that the madams of their brothels may not support them in taking Pr EP. On the other hand32.3% of the respondent said that madams will facilitate rather than obstruct their decision in taking Pr EP. 94.2% of the sex workers stated that their co-workers will not treat them differently after knowing that they are taking Pr EP. However, 5.8% of the respondents expressed their concern that some of their colleagues might mix the mup with those who are HIV-positive as HIV-positive patients do take the same or similar kinds of medicine regularly.

Pr EP, Stigma and discrimination

The issue of stigma and discrimination was discussed in FGDs, focusing on whether Pr EP could add an extra layer of stigma to those who will be taking the medicine. Another question was whether the existing social stigma associated with sex work and HIV infection would adversely affect their decision in taking Pr EP. A majority of participants responded that it would not be a major issue. However, a few of them are apprehensive about the negative impact of Pr EP as colleagues or family members may consider them as HIV positive. Some of them said that they need to convince their babus (intimate romantic partners) as they might create a nuisance as they

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may not fully understand the importance of Pr EP and its use. One respondent shared that "even if those challenges props up, she would be able to address those challenges, through explaining Pr EP and its significance.

One of the concerns which was expressed by many in the Focus Group Discussion was cantering around issue of privacy and confidentiality. Some of them were apprehensive seeing a possibility of breach of confidentiality, either in the clinic or by their colleagues in the brothel. In addition to that, some expressed their concern while they will be visiting family members who might enquire about the use of the medicine. Albeit, some of them suggested how they would be able to address those challenges. One of them shared: "I will tell my family members that I am taking medicine to control blood sugar or Blood pressure". Another participant said, "I shall carry the medicine not in the printed bottle but in a plastic sachet, so that family members or other people won't be able to find out the name of the medicine I am using".

Some of the participants expressed their scepticism regarding their babus (intimate romantic partners) as they felt that their partners might be overtly interested in Pr EP, and may try even to steal the medicine for their own consumption. One of the Key Informant who was a madam shared her views regarding the behaviour of babus. She remarked that "the babus may try to prevent sex workers from using Pr EP."

The impact of adverse effect of Pr EP medicine

79.8% of the participants stated that they will continue to use Pr EP after having minor side effects but around 20% of them were not sure whether they would continue with Pr EP after experiencing side effects of the medicine if it continue for a couple of days.

Participants in the FGD showed a keen interest to know and learn more about Pr EP and how it works inside the body and the mechanism through which it prevents HIV infection. Many participants identified side effects as one of the major barriers, as observed in the quantitative study, what might de motivate participants to continue with Pr EP after a while. Many of them enquired whether there are more possibilities and of higher degree of adverse effects of the medicine during menstruation. They were interested in knowing whether they need to stop Pr EP during the days of menstruation. Major queries included whether Pr EP could influence in gaining weight/accumulation of fat or bringing about changes in skin colours (particularly, the darkening of skin) among others. The most common queries was whether they can consume alcohol while taking Pr EP.

Preferred delivery mechanism of Pr EP

44.7% of the respondents informed that they would prefer to get Pr EP delivered to their residents by the peer educators of DMSC on a daily basis. 55.3% of them wanted to collect the medicine from the clinic run by DMSC in the area, where as 42.5% of the respondents preferred to collect Pr EP medicine once a week, 4.0% of them reported that they would like to collect

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daily doses while attending the Drop In-Centre run by DMSC within the red light district. The rest of the respondents were inclined to collect Pr EP on a monthly basis.

Participants explained their views on the delivery mechanism of Pr EP while engaged in FGDs, citing their reasons behind collecting Pr EP from peer educators or from clinic. They said that they trust peers who could also remind them of the daily doses of the medicine. Some of them who are interested to collect Pr EP from the clinics shared their justification that they will get ample opportunities to consult with the doctors, if they suffer from any side effects or any other problem while taking medicine. Madams, who were chosen as key informant however suggested that it would be better if the medicine is delivered to brothels at regular intervals, as they can monitor and can lend their support to Pr EP participants as far as possible from their end.

Predictor of adherence to Pr EP:

64% of the respondent reported that they did not suffer from any illnesses for the last three months, whereas 36% of them shared that they have received treatment for one or the other kind of ailments. Out of all the respondents who has received treatment, 22.2% of them reported that they have missed one or more doses prescribed by their physician while the rest of the participants confirmed that they have-not missed a single dose of medicine so far they could remember.

While discussing with participants in the Focus Groups, most of them mentioned that they will take Pr EP regularly and preferably after breakfast and some of them shared that they might forget to take daily doses of the medicine but if the peer workers reminded them, they would be able to stick to their daily doses. Others commented that while collecting medicine from the clinics on a daily basis, they would be able to eventually develop a habit to consume their daily doses. Some other shared that they might forget to take Pr EP but madams could help them by reminding them of their daily schedule dosages of medicine so that they will not miss a single dose. One of the participants comments that 'My major concern is alcohol intake what I had to take with my clients and often I forgot what I planned before, It could happen also in case of Pr EP"

Medical community and Pr EP,

Medical practitioners serving in the locality suggested that Pr EP must be made available in the market. Doctors need to be acquainted with all the relevant issues and challenges related to Pr EP. One of them said, “It should be publicized widely in mass media too”. Another doctor commented that “Govt. should notify guidelines for Pr EP, what could help them and their clients who are coming to their chamber and at higher risk of getting HIV.

Role of other stakeholders in connection to Pr EP,

FGD with the pimps and babus revealed some other issues like their willingness to provide support to promote Pr EP among sex workers. They also expressed their concern regarding forget fullness on the part of sex worker in taking the pill regularly. They enquired about possible side effects of the medicine and some other concern related to alcohol use and

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pregnancy. They also enquired on the actual mechanism through which Pr EP prevents HIV acquisition. Some of them enquired, "Does this medicine reduce HIV transmission only among the sex workers?"Other participants (babus or intimate romantic partners) were straighter forward. "As we are at risk of getting HIV infection too, we want to take the advantage of taking this pill. Why is it provided only to sex workers and not to us?"

Conclusion:

Before commencing the feasibility study, DMSC organized awareness campaigns on Pr EP. The Peers and the community leaders were unanimous in their opinion that Pr EP should be introduced to the sex worker communities but before the introduction community preparedness must be considered as an inbuilt system of Pr EP roll out mechanism. To position Pr EP as part of National HIV program and to scale up Pr EP among the most at risk and vulnerable communities could be initiated proceeding by a Pr EP demonstration project which is in the pipeline. The study findings suggest that community led process and community-based organizations could be the best option to roll out Pr EP. In case of the feasibility study, DMSC adopted is a strong facilitation and awareness building initiative what allowed sex workers to gain a better understanding and confidence to accept oral Pr EP as a means of additional preventive tool. One of them opined, "I came to know from my 'Peer Did' how Pr EP could help me. I am in sex work so I need to be careful about HIV infection. I want to take Pr EP to be doubly sure."

Many participants expressed through their quotes that they always suffer from fear and apprehension while pressing for safer sex with their clients and in certain circumstances, where they are not necessarily confident before hand in getting success in ensuring condo muse by their clients where Pr EP could alleviate fear. Some of them shared that while going outside to serve clients, they find that a section of clients are not only resistant to use condoms; some of them tear condoms surreptitiously before the sexual act. Some shared that while having sex with their intimate partners or babus, they find it very difficult to push condom use.

One of the participants shared, "As we are in high-risk profession and have the risk of acquiring HIV at any points of time, we should take all available preventive tools." Many respondents suggested that there are innumerable circumstances such as the non-availability of condoms, ruptures of condoms during sexual activities, among many others where Pr EP could serve as an additional safe guard. Madams and youth club members commented that when both clients and sex workers are under the influence of alcohol, they tend to forget using condom, and in those circumstances, Pr EP could be a 'back up' tool in protecting sex workers from accruing HIV infection.

Focus group discussion with members of the sex worker organization (DMSC) brought out various allied issues including the adherence to Pr EP. They suggested the need for deeper and more elaborate interactions with those who are interested in taking Pr EP before registering them in the forthcoming Pr EP Demonstration Project. They stressed on dissemination of correct

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information related to the advantages of Pr EP and possible challenges in delivering Pr EP among all the sex workers across the country. One of them remarked, “Sex workers who are more vulnerable to HIV should be first motivated to take the Pr EP in the first place”. Another leader of DMSC suggested that those who are apprehensive in taking Pr EP should be provided with adequate information and explanation regarding the positive aspects of Pr EP as well as the possible challenges. One of the suggested that “Counselling of community members at individual level should be policy before delivering oral Pr EP for ingestion”.

One of the key informant opined that there will be no difficulty if the leaders of the community understand the various aspects of Pr EP. Moreover, they also suggested that “all sex workers should be made clear that in no way them should they stop using condoms”.

In the focus group discussion with the leaders of DMSC, it was emphasized that it is those sex work who are self-reliant and those who are exposed to organizational activities of DMSC who will have less issue in taking the Pr EP. In brothel settings in So nag chi, they are less likely to face any resistance from the madams or landlords, and even if such things happen, representative of DMSC would be able to mitigate those issues and challenges

New comers in sex work are more inclined to use Pr EP as they face difficulties to enforce condom use with their clients. For new entrants, the process of gaining knowledge, adopting predominant contextual practices and skills to negotiate safe sex could be less successful during their initial stages of sex work. New entrants in sex work are often younger in age and are less empowered to insist upon the use of condoms by their clients through discussion and negotiation.

The overall understanding among stakeholders in sex work, including sex workers, madams, babus, landlords and health workers operating in and around So nag chi, was that Pr EP could make a difference in curbing HIV infection in the red-light district and in turn would help both sex workers and their clients from getting HIV infection.

The study also revealed that there are a proportion of clients who are resistant to using condoms and they try to avoid using condoms through all possible means. There are sex workers who are dependent on alcohol, as a result of which are unable to negotiate safe sex effectively. All these women could be the potential beneficiaries of Pr EP whore present the most vulnerable category of sex workers.

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Findings/ Results:

Table 1: Age in completed years		
	Frequency	Percent
18 - 24	122	30.5
25 - 29	118	29.5
30 - 34	81	20.3
35 - 39	51	12.8
40 - 44	18	4.5
45 and Above	10	2.5

Table 2: Highest level of education		
Illiterate	154	38.5
Literate but no formal education	102	25.5
Up to class 5	54	13.5
Class 5 - 9	74	18.5
SSC/HSC	14	3.5
SSC/HSC but not Graduate	1	.3
Graduate/Post Graduate	1	.3
Total	400	100.0
Illiterate	154	38.5

Table 3: Marital status		
Married	95	23.8
Unmarried	35	8.8
Separated	237	59.3
Widow	33	8.3

Table 4: Habit of using condom with customers		
Always	372	93.0
Often	28	7.0

Table 5: Frequency of condom use with Babu (Lover)		
Always	36	24.2
Often	24	16.1
Never	89	59.7

Table 6: Experienced any genital health problem within last one year (N=400)		
Pain when having sex	128	32.0

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Discharge from the genitals	145	36.25
Genital warts	29	7.25
Genital ulcers or wounds	08	2.0
Others	18	4.5
No	112	28

Table 7: In the last twelve months, frequency of being treated for sexually transmitted infection(s)		
Never	123	30.8
Once or twice	215	53.8
3 – 6 times	60	15.0
7 – 12 times	2	.5

Table 8: Risk perception of sex worker		
High	146	36.5
Moderate	88	22.0
Low	100	25.0
No chances at all	66	16.5

Table 9: Interested in taking Pr EP to prevent HIV		
Yes	393	98.3
No	7	1.8

Table 10: Prefer systems of delivery of Pr EP		
At home / Peer educator delivers	177	44.7
In the clinic / DIC (collect themselves)	219	55.3

Table 11: Preference in collecting Pr EP		
Collecting and taking on her own	35	8.8
Peer Educator visiting house and giving the dose daily	177	44.7
Attending the DIC and taking the dose daily there	16	4.0
Collecting one week or more supply of medicine from the clinic	168	42.5

Table 12: Challenges for taking Pr EP every day		
Do not know	28	7.1
No challenges at all	128	32.3
If I go to home town/village	58	14.6
Problem may be if one goes outside of the area	3	.8
Every day clinic visit is not possible	6	1.5
Take medicine every day	19	4.8

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Will be forgotten	12	3.0
High price medicine will not be taken	38	9.6
In future if I not stay here	3	.8
Side effects	96	24.2
Alcohol consume	5	1.3

Table 13: While taking Pr EP, shall they use condom at the same frequency as being done now

	Frequency	Percent
Yes	395	99.7
No	1	.3
Total	396	100.0

Table 14: Continue with Pr EP after having any side effects (for ex., nausea, vomiting, headaches or dizziness) after starting it

	Frequency	Percent
Yes	316	79.8
No	80	20.2
Total	396	100.0

Table 15: Willing to pay for Pr EP, if not given free of cost

	Frequency	Percent
Yes	326	82.3
No	70	17.7
Total	396	100.0

Table 16: Age group in years * Would the sex worker be interested in taking Pr EP to prevent HIV?

Crosstab

			Would the sex worker be interested in taking Pr EP to prevent HIV?		
			Yes	No	Total
Age group in years	18 - 23	Count	75	4	79
		% within Age group in years	94.9%	5.1%	100.0%
		% within Would the sex worker be interested in taking Pr EP to prevent HIV?	19.1%	57.1%	19.8%

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	24 - 29	Count	161	0	161
		% within Age group in years	100.0%	.0%	100.0%
		% within Would the sex worker be interested in taking Pr EP to prevent HIV?	41.0%	.0%	40.3%
	30 - 34	Count	79	2	81
		% within Age group in years	97.5%	2.5%	100.0%
		% within Would the sex worker be interested in taking Pr EP to prevent HIV?	20.1%	28.6%	20.3%
	35 - 39	Count	51	0	51
		% within Age group in years	100.0%	.0%	100.0%
		% within Would the sex worker be interested in taking Pr EP to prevent HIV?	13.0%	.0%	12.8%
	40 - 44	Count	18	0	18
		% within Age group in years	100.0%	.0%	100.0%
		% within Would the sex worker be interested in taking Pr EP to prevent HIV?	4.6%	.0%	4.5%
	45 & above	Count	9	1	10
		% within Age group in years	90.0%	10.0%	100.0%
		% within Would the sex worker be interested in taking Pr EP to prevent HIV?	2.3%	14.3%	2.5%
Total		Count	393	7	400
		% within Age group in years	98.3%	1.8%	100.0%
		% within Would the sex worker be interested in taking Pr EP to prevent HIV?	100.0%	100.0%	100.0%

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Table 17: Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.343[a]	5	.020
Likelihood Ratio	13.598	5	.018
Linear-by-Linear Association	.212	1	.645
N of Valid Cases	400		
a. 6 cells (50.0%) have expected count less than 5. The minimum expected count is .18.			

Table 18: Would the sex worker be interested in taking Pr EP to prevent HIV? * Marital status Crosstab

			Marital status				Total
			Married	Unmarried	Separated	Widow	
Would the sex worker be interested in taking Pr EP to prevent HIV?	Yes	Count	93	33	234	33	393
		% within Would the sex worker be interested in taking Pr EP to prevent HIV?	23.7%	8.4%	59.5%	8.4%	100.0%
		% within Marital status	97.9%	94.3%	98.7%	100.0%	98.3%
	No	Count	2	2	3	0	7
		% within Would the sex worker be interested in taking PrEP to prevent HIV?	28.6%	28.6%	42.9%	.0%	100.0%

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		% within Marital status	2.1%	5.7%	1.3%	.0%	1.8%
Total		Count	95	35	237	33	400
		% within Would the sex worker be interested in taking PrEP to prevent HIV?	23.8%	8.8%	59.3%	8.3%	100.0%
		% within Marital status	100.0%	100.0%	100.0%	100.0%	100.0%

Table 19: Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.180[a]	3	.243
Likelihood Ratio	3.603	3	.308
Linear-by-Linear Association	1.136	1	.286
N of Valid Cases	400		

a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is .58.

Table 20: Would the sex worker be interested in taking Pr EP to prevent HIV? * Do the sex worker have any children

Crosstab

	Do you have any children	Total

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			Yes	No	
Would the sex worker be interested in taking Pr EP to prevent HIV?	Yes	Count	308	85	393
		% within Would the sex worker be interested in taking Pr EP to prevent HIV?	78.4%	21.6%	100.0%
		% within Do the sex worker have any children	98.7%	96.6%	98.3%
	No	Count	4	3	7
		% within Would the sex worker be interested in taking Pr EP to prevent HIV?	57.1%	42.9%	100.0%
		% within Do the sex worker have any children	1.3%	3.4%	1.8%
Total		Count	312	88	400
		% within Would the sex worker be interested in taking Pr EP to prevent HIV?	78.0%	22.0%	100.0%
		% within Do the sex worker have any children	100.0%	100.0%	100.0%

Table 21: Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.806[a]	1	.179		
Continuity Correction[b]	.781	1	.377		
Likelihood Ratio	1.543	1	.214		

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Fisher's Exact Test				.182	.182
Linear-by-Linear Association	1.802	1	.180		
N of Valid Cases	400				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 1.54.

b. Computed only for a 2x2 table