



Knowledge, attitude and practice of post exposure prophylaxis among female sex workers at Majengo, Nairobi.

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SUMMARY

Background: HIV Post–exposure prophylaxis (PEP) is defined as the provision of a short course of antiretroviral drugs soon after a possible or confirmed HIV exposure to HIV negative persons. The aim is to allow a person’s immune system to provide protection against the virus and to prevent HIV from becoming established in someone’s body. However, its use in at–risk populations such as female sex workers has not been studied extensively.

Objectives: The main objective of the study was to determine knowledge, attitude and practice in particular use of post exposure prophylaxis among the female sex workers.

Study Design: Descriptive cross–sectional survey was carried out at the female sex worker clinic located at Majengo slums, Nairobi.

Method: Consecutive sampling method was used to identify study population and 345 participants were sampled and interviewed using semi–structured questionnaire.

Results: The average age of the participants was between (25–34years). The mean duration of prostitution was 10 years. The mean number of all type of sexual clients per week was 11.4 (CI: 10.6–12.2). Condom use was high among irregular clients (>90%) as compared to regular clients/boyfriends (6.8%). On sexual practice the study showed that vaginal sex was highly practiced among all sexual clients (90%). The study revealed that 75.7% of the participants had adequate knowledge on PEP. Though 71% of the participants had ever used PEP, majority (68.9%) did not complete the four weeks of treatment. Out of the participants who had ever used PEP, 10.3% had used it due to rape and 65.3% condom burst ($P<0.01$) and 24.4% had used it because they either chose not to use condom or they were paid more not to use condoms The study demonstrated that side effects of drugs (57.4%) and fear of being known that they were using PEP (64.1%) positively affected the uptake of Post exposure prophylaxis.



Conclusion: The study demonstrated that the participants adopted safer sexual behaviour which included condom use though more education is needed to use protection even with the boyfriends/regular clients. Most of the participants reported that the reason for PEP use as due to condom burst, there was need for health providers to do health education on proper condom use and the recommended lubricants including demonstration from time to time to avoid condom burst. The results also showed that the study participants rarely practiced risky sexual behaviour like anal sex. The study revealed that 23.4% of the participants had inadequate knowledge on PEP. The major constraint to PEP uptake was side effects and fear that other clients will know that they are on PEP hence there is need for more interventions on PEP in order to increase the level of awareness and adherence.

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Introduction

The most effective methods for preventing human immunodeficiency virus (HIV) infection are those that protect against exposure to HIV (1). However there are some circumstances whereby individuals are exposed to HIV either occupationally or non-occupationally. In this case one can be advised to use post exposure prophylaxis (2). HIV Post-exposure prophylaxis (PEP) is defined as the provision of a short course of antiretroviral drugs soon after a possible or confirmed HIV exposure to HIV negative persons. The aim is to allow a person's immune system to provide protection against the virus and to prevent HIV from becoming established in someone's body (3). In order for PEP to work the medication needs to be taken as soon as possible and specifically within 72 hours of exposure to HIV. Although it is difficult to study in humans, anecdotal evidence coupled with data from animal models suggests that this intervention represents a useful HIV prevention tool. While HIV PEP has been used extensively in the context of risky exposures in health care settings, its use in high-risk sexual exposure (PEPSE) remains understudied (2).

Sex workers either male or female are at high risk of acquiring HIV, generally through sex. Transmission is prevented by the appropriate use of the male or female condom. However, sometimes condoms may not be used for a number of reasons, such as incase of rape, personal choice or condom burst (4). In such situations the probability of HIV transmission may be reduced by the administration of Post Exposure Prophylaxis (PEP). This involves taking in combination of 2 or 3 antiretroviral (ARV) drugs for a period of one month; in conjunction with appropriate counseling, monitoring and post-PEP follow up. No clinical trial has proven the efficacy of this intervention, but it is extrapolated from a case-control of AZT alone after a needle-stick injury in health care workers, where the risk of transmission was reduced by 80% and from animal studies using viruses closely related to HIV (4).

There is widespread concern that the availability of PEP encourages risk taking among female sex workers (5) however, this has not been proven. Some studies suggest that there is no change, whereas others suggest that there is a decrease in risk-taking behavior in the short term (6). However, long-term behavior



modification does not appear to be sustained. There is some fear that the use of PEP may lead to more risky sexual behavior because people may feel protected against HIV infection. This increase, which is called behavioral disinhibition or risk compensation (7), would to some extent reduce the effect of PEP

A study was done on Knowledge and attitudes regarding post-exposure prophylaxis (PEP) and highly active antiretroviral therapy (HAART) as correlates of HIV risk behavior among young men who have sex with men (MSM) in the United States of America (USA). The study showed that: 72% of the men had heard about PEP, 10% knew someone who had taken PEP, and 1.5% had taken PEP themselves. Among the respondents, 76% of the men had heard about HAART. (8). Low levels of awareness and knowledge of HIV PEP may translate to missed opportunities for access to PEP, and potential HIV infection. A study showed that limited knowledge may reflect the recent introduction of PEP into Australia and/or unfamiliarity with HIV infection and patients (9).

Post-exposure prophylaxis is not enough to significantly reduce the worldwide spread of HIV. It is a short-term preventative measure that is used as an 'emergency' precaution. PEP is considered as the very last resort in HIV prevention and should only be used when all other methods of HIV prevention have failed. However, with increasing widespread availability and further awareness, PEP can offer more people control over their own health.

Materials and Methods

The study was carried out at a sex worker clinic located at Majengo slums in Nairobi, neighbouring Gikomba

market and Pumwani maternity Hospital in the Eastern part of Nairobi city. This is a cohort clinic which has been in operation since 1985. It is managed by the University of Nairobi/Manitoba for the recruitment of female sex worker for purpose of diagnosis, treatment and research of STDs and HIV. It provides services to an average of 700 patients every month and approximately 30 new clients are recruited each month. Cross-sectional study method was used to determine the knowledge, attitude, and practice in particular use of Post exposure prophylaxis among the female sex workers enrolled at Majengo clinic. Consecutive sampling method was used to identify study population and 345 participants were sampled and interviewed using semi-structured questionnaire. The inclusion criteria included female sex workers who were enrolled at the Majengo clinic who were HIV negative. The data entry was done using excel computer package and cross checking done. The data analysis was done using SPSS computer package. Descriptive statistics was used where mean, standard deviation, frequency distribution and proportions were done for variables in the different groups. Inter-relations between the variables and tests of significance were sought using chi-square and 95% confidence limits. A P-value of 0.05 significance level was used. Variables which are significant were then be subjected to multivariate analysis.

Results

The study results showed that; most of the respondents were between the ages of 25–34 years, (90.7%). On marital status 40% of the respondents were single, 33.7% were divorced while 26.2% were widowed. Approximately 45.8% of the respondents were



Protestants with Catholics making 40.6% of the population and Muslims 13.6%. Seventy two point five percent of the participants had been into prostitution for less than 10 years. The average numbers per week of sexual clients was 11.4 (CI: 10.6–12.2). Majority of the participants (79.1%) had at least one boyfriend. Condom use was high among irregular clients as compared with regular clients (90% and 6.8%) respectively.

On sexual practice the study showed that vaginal sex was highly practiced among all sexual clients. Oral sex was sometimes practiced with 64.6% reporting to sometime practice it with first time clients, 83.8% with regular clients and 60.1% with boyfriends. Anal sex was rarely practiced among all types of sexual clients. Only 0.3% reported to have practiced anal sex sometimes with their first time clients, 1.8% with their regular clients and 6.8% with their boyfriends. The study showed that 75.7% of the participants had adequate knowledge on PEP; while 24.3% had inadequate knowledge on PEP.

On the use of PEP, majority of the participants 71% had ever used PEP previously ($P < 0.00$). Out of the participants who had ever used PEP, 10.3% had used it due to rape and 65.3% condom burst ($P < 0.01$) and 24.4% had used it because they either chose not to use condom or they were paid more not to use condoms. Eighty four percent of the PEP users had used PEP for two or more times, compared to 16% who had only used once. 68.9% of the participants had started PEP and failed to complete the four weeks of treatment ($P > 0.05$). Most (83.7%) of these participants reported that the reasons for not completing the dosage was because of side effects of the drugs ($P < 0.01$)

while 26.3% responded by saying the drugs got lost, they thought they were safe, they forgot to take their pills or they got bored of taking the pills. Only 21.8% of the participants were on PEP at the time of data collection. The study established that knowledge and use of PEP were significantly associated with level of education ($p < 0.006$) and duration of prostitution ($p < 0.001$)

Most of the participants (97.7%) were of the opinion that PEP services should be easily available to all sex workers. However an overwhelm majority (92.2%) reported that they would you seek PEP services since they were available in our facility. Most (90.7%) of the participants identified lack of knowledge about PEP was the greatest hindrance to PEP use.

Discussion

Post-exposure prophylaxis represents an emerging HIV prevention tool for those sexually exposed to HIV. However, its use in at-risk populations such as female sex workers has not been studied extensively. The study demonstrated that most of the population engaged in prostitution is relatively young (25–30 years). There was an association between the level of education and knowledge of PEP, the participants who had secondary school and college level education were more knowledgeable as compared to those with primary school and those who had never gone to school ($P > 0.006$). There was association between duration of prostitution and knowledge of PEP ($P < 0.00$); those with a longer the duration of sex work had more knowledge of PEP.



Risk behaviour which also exposes the clients to HIV was also addressed in the study, and it was interesting note that relatively few of the participants were engaging in alternative sexual methods like anal and oral sex. This is in contrast to a study done in female sex workers in urban Kenya that showed that 37% (74/200) reported having had anal sex (10). Frequency of anal sex was higher with regular and casual partners than with primary partners. Another study found that 14% of a cohort of sex workers in Kenya reported practicing anal intercourse (11), and in a cohort of South African sex workers surveyed at truck stops, 42.8% reported this behaviour (12).

Female sex workers do adopt safer sex behaviour after educational interventions, and many programs have succeeded in encouraging sex workers to negotiate condom use with their clients. A systematic review of published evidence from 1998 to 2006 on condom use found that 15 of the 19 studies of condom use in commercial sex reported significantly increased levels of condom use (13). However, programs need to support sex workers to use condoms with regular clients as well as in their personal relationships as they are less likely to use condoms with their husbands, boyfriends, and partners. Sex workers need access to condoms and appropriate water-based lubricants (14). Our study showed that condom use among irregular clients was high and low among regular clients, indicative that many sex workers have adopted “safer sex” behaviour (4). A study of condom use among sex workers in China showed that (93.7%) of the respondents used condoms (15), and another cohort study done among FSW in Madagascar on perceived control over condom use showed that more than 40%

of participants reported never using a condom with their main partner (16).

Post-exposure prophylaxis for sexual exposure (PEPSE) is increasingly recommended for female sex workers following unprotected sexual intercourse (17). There has been a significant increase in the awareness and uptake of PEPSE since high profile health campaigns in the United Kingdom (UK) and a high volume of discussion around PEP in the gay press (18), predating the publication of UK guidelines for the use of PEPSE in 2006. In our study, 75.7% of the participants had adequate knowledge on PEP, 16.3% had inadequate knowledge on PEP, and 8.1% lacked knowledge on PEP. This indicates that more interventions are needed to increase the level of knowledge to 100%.

If somebody is exposed to HIV, it may be possible to reduce the chance of becoming infected by taking four weeks of combination antiretroviral medication. This drug regimen should ideally be started within 2–24 hours and no later than 48–72 hours after exposure, and must continue for the full four weeks. In the present study, only 56.2% of respondents were certain it should be started within 72 hours after exposure. This is similar to another study on knowledge, attitude, and practices of health care staff towards PEP for HIV Infection at Mulago Hospital in Uganda (19), 48.1% of the staff had no idea when it should be started, with responses ranging from between 2 hours to one month; only 22.3% being sure it should be started within an hour of exposure. This shows that FSW are relatively well-informed in comparison with health workers, but more studies are needed support this comparison.



The study showed that 71% of the participants had ever used PEP, unlike another study that was done among at-risk Boston men who have sex with men which showed that only 3.1% had used PEP (20). There was a positive association between PEP use and knowledge of PEP ($P < 0.001$). On exploring the factors affecting the uptake of PEP the study identified that side effects and fear of other sex workers knowing that they are on PEP affected the uptake of PEP. This is similar to another study which was done among health workers at Mulago Hospital in Uganda (19), 82.9% of the staff members had been exposed to potentially infectious fluids this was mostly after percutaneous injury only 21% sought some sort of advice for PEP and did not follow it up. The most common reason given was fear of being stigmatized and most believed their fellow staff would not buy the idea that it was from being exposed in the line of duty. It also became evident that many of the participants did not wish to know their HIV status. There are few studies that have been done on use of PEP among FSW workers hence more is needed to be studied on that issue.

Sex workers, who by the nature of their work are exposed to sex with multiple partners, are a key group of women who need access to HIV prevention and services. The acceptability of seeking and using PEP in the case of sexual exposure was high (97.1%), as most participants said they would seek PEP services since they were available in the clinic and most of health facilities.

Conclusion and Recommendation

The study demonstrated that the participants adopted safer sexual behaviour which included condom use though more education is needed to use protection

even with the boyfriends/regular clients. This also implies that there is need for targeting male clients in order to increase condom use thus reducing HIV risk for sex workers. However, since most participants reported that the reason for PEP use as due to condom burst, there was need for need for health providers to do health education on proper condom use and the recommended lubricants including demonstration from time to time to avoid condom burst. The results also showed that the study participants rarely practiced risky sexual behaviour like anal sex. The study revealed that 23.4% of the participants had inadequate knowledge on PEP. The major constraint to PEP uptake was side effects and fear that other clients will know that they are on PEP hence there is need for more interventions on PEP in order to increase the level of awareness and adherence

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Authors' contributions in the study were the principle investigator, the supervisors and university of Manitoba/Nairobi.

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