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Coverage of HIV Prevention Services for Female Sex Workers in Seven Cities of Myanmar

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Abstract

Cross-sectional surveys of female sex workers using time-location sampling in seven cities of Myanmar gauged coverage of HIV prevention programs. HIV testing in last year ranged from 28 to 73 %; attending peer educator talks ranged from 15 to 50 %; exposure to media campaigns varied by city and materials (e.g., lower for TV and radio, higher for printed materials). Consistent condom use with clients in last week was high (88–99 %) across all cities. The largest city, Yangon, lagged behind others in coverage of most programs. Such data are necessary for planning, targeting, and evaluating the prevention response for this key population disproportionately affected by HIV.

Keywords

Female sex workers; Myanmar; HIV prevention; Time-location sampling

Introduction

Female sex workers (FSWs) constitute a key population disproportionately affected by HIV worldwide, particularly in Southeast Asia and especially in Myanmar [1]. The HIV epidemic overall in Myanmar is one of the most severe in Asia. The total number of people living with HIV in Myanmar is not known precisely but was projected to be 242,000 adults and children in 2007 (unpublished report: Injecting Drug Users and Female Sex Workers Behavioral Surveillance Survey 2008, by the National AIDS Programme, Department of Health, Ministry of Health, Union of Myanmar). The epidemic is driven by a combination of injection drug use and sex work and is concentrated in cities throughout the country and in broad areas of the northern and eastern regions where large-scale production and movement of illicit drugs occurs. Another unpublished report from the National AIDS Programme

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estimated HIV prevalence among FSW at 11.4 % (ranging from 9.3 to 13.4 % in different cities) in 2010.

In response, specific FSW-focused HIV prevention programs have been developed in Southeast Asia, including FSW-friendly drop-in centers for HIV and STI testing, peer education, mass media campaigns, and "edutainment" materials (e.g., cartoon booklets designed to educate and entertain the target audience). Some programs have been heralded successes in changing behavior, such as mass media and the "100 % condom use" campaigns in Thailand and elsewhere [2–5]. Although these efforts have been scaled up extensively in many countries in the last several years, their coverage in FSW populations is seldom presented in the literature.

In Myanmar, Population Services International (PSI) is one of the largest non-governmental organizations conducting HIV prevention among key populations. PSI started an FSW outreach program in 2004 and expanded it comprehensively to include drop-in centers and peer education outreach in 18 cities of Myanmar. PSI produces educational materials (e.g., cartoons and pamphlets) for limited, direct circulation among FSWs and conducts social-marketing campaigns using mass media for the Aphaw ("trusted companion") condom. Aphaw is the only socially marketed condom brand in Myanmar, introduced in 1997 and now sub-branded with regular, strawberry, banana, and extra-thin versions. In 2010, PSI distributed nearly 30 million condoms in Myanmar.

PSI's FSW-oriented HIV-prevention programs focus on drop-in centers and venue-based activities. The drop-in centers are community spaces where FSWs can relax and socialize with other FSWs and health promoters. The centers have TVs, karaoke machines, and bathroom facilities; PSI-produced materials are available as well. In 2010, a total of 44,092 individual FSWs visited the 18 centers across Myanmar. In addition, peer educators based at the centers conducted outreach to FSWs at their venues of work, for one-on-one and group discussions about HIV/AIDS, safer sex, and correct and consistent condom use. They also provided condoms and printed educational materials. FSW venues included sex-work facilities (where one can have sex on-site), such as brothels, guest houses, and massage parlors; entertainment venues (where one can talk to FSWs and arrange for sex elsewhere), including restaurants, karaoke lounges, and nightclubs; and street venues (where one can pick up FSWs and go elsewhere to have sex), including street corners, bus stops, parks, and public toilets. In 2010, peer educators had 110,024 FSW interactions at venues across the country. The current study presents indicators of the coverage of these programs among FSWs in seven of the 18 cities in Myanmar where PSI operates.

Methods

We conducted cross-sectional behavioral surveys that included a total of 978 FSWs, using time-location sampling in seven cities of Myanmar (Yangon, Mandalay, Myitkyina, Monywa, Tachileik, Pyay, Bago) in October and November of 2010 and following standard protocols for mapping sex-work venues, drawing random samples of venues, and intercepting FSWs at the venues [6]. The target population was FSWs working within the catchment areas of PSI's outreach and drop-in center programs. At the time of the survey, the programs were located in 18 cities, of which seven were purposely chosen to include the largest numbers of FSWs (an estimated 32,350 total) and to include the major regions of Myanmar. Based on approximations of the total number of FSWs in these cities, the targeted sample size of 970 (978 achieved) was apportioned to each city for ease of achieving the allocated number and for potential pooling of data. The total sample size was based on having reasonable precision (±5 %) for key indicators of program reach in the largest cities. Within each city, "hot spots" (i.e., areas with the above-described venues) were mapped to

form a sampling frame. FSW venues within the hot spots were selected by systematic random sampling (i.e., random start on the list and intervals to include three facility sex-work sites or street sites and five entertainment sites. At the sites, FSWs were invited consecutively to participate. An interview was conducted at the venue if a private area was available; if not, the interview took place at a nearby restaurant or tea shop where privacy could be assured. Inclusion criteria were persons aged 18–49 years who reported having sex for money in the past week. HIV testing was not done. A standardized, face-to-face interview measured basic demographic information, use of programs (e.g., HIV testing, drop-in centers), exposure to specific PSI condom promotional and educational messages (i.e., Aphaw brand condoms and communications), and condom use with clients, casual partners, and regular partners. A regular partner is a man with whom the FSW had a sexual relationship for at least 3 months and/or with whom she had sex regularly and did not consider a client even if money, gifts, food, accommodations, or other support was received from him. This category may include husbands, cohabitating partners, boyfriends, or long-term regular clients. A casual partner is a man whom the FSW did not consider a client but with whom she had a sexual relationship for less than 3 months and/or with whom she had sex occasionally. This category may include one-night affairs. A client is a man with whom the FSW had sex only for money or other material goods. Analysis was done using Stata software; figures are not weighted. Given large differences in the makeup of FSWs in each location, we present indicator data for each city separately. The protocol was approved by the PSI Research Ethical Board in Washington, DC, USA.

Results

The median age of FSWs in the sample was 23 years—with 23 years in Yangon, 24 in Mandalay, 23 in Myitkyina, 25 in Monywa, 20 in Tachileik, 24 in Pyay, and 22 in Bago. The majority of sex workers in all seven cities were younger than 25 years (Table 1), with substantial proportions being younger than 20 years (e.g., highest at 54 % in Tachileik, 33 % in Yangon); few completed secondary education (e.g., 4 % in Yangon, none in Monywa, Tachileik, and Bago). Fewer women were involved in brothelbased sex work in Yangon (8 %) compared with Bago (69 %), Monywa (61 %), and Mandalay (47 %); most sex workers in Tachileik (77 %) were from entertainment centers; and street-based sex work was more common in Myitkyina (39 %) and Pyay (40 %).

The proportion of women tested for HIV and receiving results in the last year ranged from 28 % in Tachileik to 73 % in Myitkyina (median for all cities surveyed: 43 %). FSWs who reported visiting a drop-in center in the last 3 months ranged from 8 % (Mandalay) to 67 % (Pyay), with a median of 31 %, and those who attended a peereducator talk ranged from 15 % (Yangon) to 50 % (Pyay). Recent exposure (in the last three months) to Aphaw-specific messages was high where billboards were present (97–99 %); moderate coverage was achieved with cartoons (23–84 %, median 60 %) and pamphlets (36–73 %, median 52 %); fewer FSWs reported seeing TV (10–38 %, median 31 %) or hearing radio messages (2–23 %, median 6 %). Large majorities of women reported consistent condom use with clients in the last week, with only Pyay falling below 90 % (88 %).

Discussion

Venue-based surveys in seven cities of Myanmar, including large numbers of youth and adolescents, indicate encouraging success in reaching FSWs with HIV-prevention efforts: between one-third and one-half learned their HIV serostatus in the last year, and high proportions were exposed to a diversity of efforts that included peer educator talks, drop-in center visits, mass media, and distribution of educational materials within the last few months.

Although Yangon is the center of the national economy, with greater resources, indicators show relatively weaker coverage there. This outcome may stem from its larger size, numerous venues for sex work, and high turnover ofFSWs to and from other parts of the country. Indicators suggest all prevention approaches need to be scaled up in Yangon, with a particular focus on the low HIV-testing rate. Of note, Myanmar's second-largest city, Mandalay, achieved relatively better indicators of prevention coverage.

We recognize that sample sizes were small for the smaller cities; therefore, comparisons between cities in the survey need to be made cautiously, and point estimates should be considered imprecise. To our knowledge, however, no similar data on sex workers in the towns of Myitkyina, Monywa, Tachileik, Pyay, or Bago have been published previously. Pooling the data would increase the sample size, but some suggested differences in the context of sex work in diverse parts of Myanmar would thereby be obscured. Estimates here may be compared with future surveys of FSWs in these cities. We also acknowledge a high potential for social-desirability response bias, particularly among women who participated in the PSI programs and especially regarding consistent and correct condom use with clients. It is also possible that some venues may not be included due to incomplete mapping. Recall bias of program exposures and FSW behaviors are also considerations. Finally, we cannot ascribe causality between exposures to programs and individual preventive behaviors.

Despite these limitations, our data provide a snapshot of the coverage of HIV programs for FSWs across the major cities and regions of Myanmar—necessary information for planning, targeting, and evaluating the prevention response for this key population. Consecutive waves of surveys using similar measures can provide some evidence of impact of aggregate efforts [4, 5]. Data also hone our understanding of which methods of disseminating information are most effective in a particular location, and where specific programs need to be enhanced.

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Table 1

Female sex workers in seven cities of Myanmar: characteristics, indicators of exposure to services, and preventive behaviors, 2010

Measure	Yangon (*n* = 495) % (95 % CI)	Mandalay (*n* = 225) % (95 % CI)	Myitkyina (*n* = 62) % (95 % CI)	Monywa (*n* = 49) % (95 % CI)	Tachileik (*n* = 39) % (95 % CI)	Pyay (*n* = 60) % (95 % CI)	Bago (*n* = 48) % (95 % CI)
Demographic characteristics and type of sex work							
Age group (years)							
≤20	33 (28–37)	25 (19–31)	32 (10–55)	16 (0–42)	54 (22–86)	30 (8–52)	33 (6–60)
21–25	31 (28–36)	35 (28–41)	31 (9–53)	35 (2–68)	33 (3–64)	25 (4–46)	40 (12–68)
26–30	21 (18–25)	24 (19–30)	27 (6–49)	20 (0–48)	13 (0–34)	25 (4–46)	19 (0–41)
>30	14(11–17)	16(11–21)	10 (0–24)	29 (0–60)	0(*)	20 (1–39)	8 (0–24)
Education							
No school	8 (6–11)	12 (8–17)	0(*)	8 (0–27)	13 (0–34)	23 (3–44)	13 (0–31)
Up to primary	27 (23–31)	27 (21–33)	27 (6–49)	31 (0–63)	23 (0–50)	27 (5–48)	38 (10–65)
Middle school to high school	60 (56–65)	56 (49–63)	63 (40–86)	61 (27–95)	64 (33–95)	48 (24–72)	50 (21–79)
Above high school	4(3–6)	4 (2–7)	10 (0–24)	0(*)	0(*)	2 (0–8)	0(*)
Currently married	26 (22–30)	29 (23–35)	23 (3–43)	43 (8–77)	0(*)	48 (24–72)	21 (0–44)
Monthly income ≥$150	55 (51–63)	50 (44–57)	66 (43–89)	39 (5–73)	85 (61–100)	42 (18–65)	83 (62–100)
Owns a TV	58 (54–63)	58 (51–64)	56 (33–80)	39 (5–73)	59 (27–91)	38 (15–62)	56 (28–85)
Owns a radio	40 (36–45)	32 (26–39)	68 (45–90)	33 (0–65)	26 (0–54)	13 (0–30)	40 (12–68)
Type of sex work							
Street-based	43 (39–47)	20 (15–25)	39 (15–62)	18 (0–45)	0(*)	40 (17–63)	31 (5–58)
Brothel-based	8 (6–11)	47 (40–53)	29 (7–51)	61 (27–95)	23 (0–50)	35 (12–58)	69 (42–95)
Entertainment center	48 (44–52)	33 (27–40)	32 (10–55)	20 (0–48)	77 (50–100)	25 (4–46)	0(*)
Prevention program use							
Tested for HIV and knew result, last 12 months	39 (35–43)	67 (61–73)	73 (51–94)	43 (8–77)	28 (0–57)	58 (35–82)	42 (13–70)
Visited drop-in center, last 12 months	28 (25–32)	8 (4–12)	37 (14–60)	NA	33 (3–64)	67 (44–89)	13 (0–31)
Attended peer health talk, last 12 months	15 (12–19)	37 (31–44)	26 (5–47)	41 (7–75)	31 (0–61)	50 (26–74)	35 (8–63)
Saw Aphaw billboard message, last 3 months	97 (96–99)	99 (98–100)	NA	NA	97 (87–100)	98 (92–100)	NA
Read Aphaw cartoon, last 3 months	39 (35–43)	61 (54–67)	84 (66–100)	59 (25–93)	NA	23 (3–44)	71 (45–97)

Measure	Yangon (*n* = 495) % (95 % CI)	Mandalay (*n* = 225) % (95 % CI)	Myitkyina (*n* = 62) % (95 % CI)	Monywa (*n* = 49) % (95 % CI)	Tachileik (*n* = 39) % (95 % CI)	Pyay (*n* = 60) % (95 % CI)	Bago (*n* = 48) % (95 % CI)
Read Aphaw pamphlet, last 3 months	46 (42–50)	60 (54–67)	73 (51–94)	67 (35–100)	36 (5–70)	42 (18–65)	52 (23–81)
Watched Aphaw TV message, last 3 months	35 (31–39)	31 (25–37)	31 (9–53)	10 (0–31)	NA	20 (0–39)	38 (10–65)
Heard Aphaw radio message, last 3 months	7 (5–9)	6(3–9)	23 (3–43)	6 (0–23)	3 (0–13)	2 (0–8)	NA
Condom use							
Consistent condom use with clients, last week	93 (91–95)	99 (97–100)	92 (79–100)	98 (88–100)	95 (81–100)	88 (73–100)	94 (80–100)
Condom use at last sex with client	97 (95–98)	100 (99–100)	95 (85–100)	NA	95 (81–100)	92 (78–100)	NA
Consistent condom use with casual partners, last month	72 (60–83)	71 (46–95)	NA	88 (0–174)	NA	NA	NA
Consistent condom use with regular partners, last month	30 (24–35)	40 (32–48)	22 (0–51)	18 (0–71)	NA	37 (7–66)	24 (0–70)

NA not applicable, missing, or declined

* Adjusted 95 % confidence interval not calculated