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Contraceptive Utilization and Pregnancy Termination Among Female Sex Workers in Afghanistan

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Abstract

Background: To determine the prevalence and correlates of prior pregnancy termination and unmet need for contraception among female sex workers (FSWs) in Afghanistan.
Methods: FSWs in Jalalabad, Kabul, and Mazar-i-Sharif were recruited between June 2006 and December 2007 through outreach programs. Participants completed an interviewer-administered survey describing demographics, behaviors associated with risk of sexually transmitted infections (STIs) and unplanned pregnancy, and medical history. Correlates of prior pregnancy termination and current unmet need for contraception were assessed with logistic regression analysis, controlling for site.
Results: Of 520 FSWs, most (82.3%) had been pregnant at least once (mean 4.9 ± 2.7, range 1–17), among whom unplanned pregnancy (36.9%) and termination (33.2%) were common. Jalalabad participants were more likely to report both prior unplanned pregnancy (60.6% vs. 48.3% in Kabul or 20.7% in Mazar, $p < 0.001$) and prior termination (54.9% vs. 31.8% in Kabul or 26.8% in Mazar, $p < 0.001$). Most FSWs (90.0%) stated pregnancy was not currently desirable, and 85.2% were using contraception. Unmet need for contraception (14.7% of participants) was positively associated with having sold sex outside their city of residence (adjusted odds ratio [AOR] 1.88, 95% confidence interval [CI] 1.28-2.77) and inversely associated with illicit drug use (AOR 0.41, 95% CI 0.31-0.53).
Conclusions: Although FSWs in Afghanistan report high rates of contraceptive use, unplanned pregnancy is common. Reproductive health services should be included in programming for FSWs to reduce unplanned pregnancies and to reduce HIV/STI risks.

Introduction

Female sex workers (FSWs) are a core risk group for acquiring human immunodeficiency virus (HIV) and other sexually transmitted infections (STIs).[1–3] Because many FSWs are women of reproductive age, they are also at high risk for unintended pregnancy. Although most health services for FSWs focus on HIV and other STI prevention, diagnosis, and treatment, recent reports emphasize a need to incorporate contraception with these services.[4–6] The rationale for comprehensive reproductive health services for FSWs is the lack of service options to this vulnerable group and the likelihood of improved contraceptive use in a setting where all services may be provided at the same time. FSWs in a variety of settings have high rates of both unmet need for contraception and its potential sequelae of pregnancy termination.[4–6] Among FSWs not desiring pregnancy in four cities in Madagascar, 30% did not use any contraceptive method at last sexual transaction.[4] The prevalence of prior pregnancy termination ranges between 21.9% and 60.0% among FSWs in a variety of international settings.[4–7]

Afghanistan is slowly rebuilding health infrastructure amid ongoing political and military strife. Health services are estimated to cover 82% of the population, although barriers to access may hamper healthcare use.[8] However, reproductive health indicators are among the worst globally, with the

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fourth highest total fertility rate and second highest maternal mortality ratio.[9,10] National estimated contraceptive prevalence rates (CPRs) improved from 10% to 15% between 2000 and 2005 but remain quite low, with unintended pregnancy common and abortion currently heavily restricted.[9,11,12]

In Afghanistan, the number of women participating in sex work is estimated to be steadily increasing because of bleak economic prospects, despite the socially conservative setting and severe legal sanctions.[13] A mapping study performed in 2006–2007 estimated that there were 1160 FSWs in Kabul, Jalalabad, and Mazar-i-Sharif, the three cities surveyed.[14] Afghan FSWs, like those in other settings, are less likely to go to public health clinics because of their fear of being reported to the authorities. Many Afghan women are also restricted in their ability to access healthcare because of a cultural requirement requiring male accompaniment.[7,15] In a larger assessment of sex workers in three Afghan cities, we detected one case of HIV and no cases of syphilis among participants; however, condom use has been and remains relatively rare, increasing concern that FSWs are also at risk for unintended pregnancy.[16] Aspects of reproductive health, such as contraceptive use, have not been reported among FSWs in Afghanistan. Thus, we assessed the prevalence and correlates of reported contraceptive use and prior pregnancy termination among FSWs in three Afghan cities as part of the larger seroprevalence study.

Materials and Methods

Setting

This study surveyed sex workers from Jalalabad, Kabul, and Mazar-i-Sharif, Afghanistan. These cities, which are the largest urban centers in their respective regions, had a functioning Ministry of Public Health Voluntary Counseling and Testing Centers (VCTs) and sex worker-focused programs at the time of the study.

Study design, participants, and procedures

This cross-sectional study was conducted between September 2006 and January 2008; participant recruitment, consent, and testing have been described previously.[16] Briefly, a convenience sample of adult women (aged $\geq$18 years) currently working as and self-identified as FSWs were recruited through programs operating at the time of the study in each location. Only women previously self-identifying as sex workers through programs operating at the time of the study were eligible for enrollment. Consenting participants completed an interviewer-administered questionnaire and whole blood rapid testing for HIV, syphilis, and hepatitis B and C. Before data collection, this study was approved by the Institutional Review Boards of the University of California, San Diego; the Walter Reed Army Institute of Research; the U.S. Naval Medical Research Unit 3 in Cairo, Egypt; and the Ministry of Public Health of the Islamic Republic of Afghanistan.

Measures

The questionnaire included sociodemographics, travel history, sex work history and activity, and reproductive health history. Quantitative measures, including monthly income and monthly number of clients, were divided at the median for analysis. For measures specific to reproductive health, participants were queried about all prior pregnancy outcomes, including terminations, and if those pregnancies were desired. Lifetime contraceptive use and methods used were also recorded. The variable current risk for unintended pregnancy was derived from FSWs not currently desiring pregnancy and not using any contraceptive method.

Statistical analysis

Descriptive statistics were employed to characterize the participants. Differences between sites were evaluated using chi-square tests for categorical variables and t tests or Wilcoxon's tests for continuous variables. Outcomes of interest were prior pregnancy termination and current risk for undesired pregnancy. Correlates of each outcome were individually assessed with logistic regression, controlling for site through a cluster approach. Multivariable logistic regression was used to identify factors independently associated with each outcome. Variables were retained in the final model if they were significant at the 10% level using the likelihood ratio test.

Results

Across the three cities, there were 520 participants (Kabul, $n = 173$; Jalalabad, $n = 114$; Mazar-i-Sharif, $n = 233$), of whom most (79.6%, $n = 414$) had one or more children. Most (82.3%, $n = 428$) participants had been pregnant at least once, and 49 (9.4%) women desired pregnancy at enrollment (Table 1). Generally, FSWs from Jalalabad were younger, less likely to be married or have had a prior pregnancy, and older at coital debut.

Systemic hormonal methods of contraception were the most commonly used methods, with significant site variance in method preference. Oral contraceptives (OCs) and injectable depot medroxyprogesterone acetate (DMPA) were the most popular methods among women using contraception in Jalalabad, representing 45.5% and 31.8% of the method mix, respectively. DMPA was the most popular method in Mazar-i-Sharif, representing 56.1% of the method mix, with OCs comprising 21.4%. In Kabul, condoms were the most commonly used method, with 50.6% of women using contraception using this method. Participants from Kabul were significantly less likely to be using contraception compared with the other two sites; however, there was no significant site difference among women desiring pregnancy. Age was not significantly associated with current contraceptive use ($p = 0.529$). Method preference by age was also considered, however, with older women being more likely to use OCs ($p = 0.001$) or injectables ($p = 0.004$) or to have had surgical sterilization ($p = 0.23$), whereas younger women were more likely to use the intrauterine device (IUD) ($p = 0.044$). Of women using condoms as the contraceptive method ($n = 64$), just over half reported consistent condom use in the last 6 months with clients (53.1%) or nonclient partners (62.5%).

Of women with prior pregnancies ($n = 428$), 157 (36.9%) had at least one unplanned pregnancy, and 142 (33.2%) reported prior pregnancy termination. Participants from Jalalabad were more likely to report both unplanned pregnancy (60.6% vs. 48.3% in Kabul or 20.7% in Mazar, $p < 0.001$) and prior pregnancy termination (54.9% vs. 31.8% in Kabul or 26.8% in Mazar, $p < 0.001$). Of women reporting prior preg-

Table 1. Demographic Characteristics, Reproductive Health History, and Prior Contraceptive Use Among Female Sex Workers in Afghanistan ($N = 520$)

	Kabul		*Jalalabad*		*Mazar-i-Sharif*		
Feature	n *173*	% *100*	n *114*	% *100*	n *233*	% *100*	p *value*
Age, years							<0.001
Mean (SD)	28.7 (6.66)		26.5 (6.38)		29.3 (7.25)		
Age of coital debut							<0.001
Mean (SD)	18.2 (3.75)		19.2 (2.21)		17.3 (2.58)		
Marital status							<0.001
Never married	9	5.2	39	34.2	22	9.4	
Ever married	164	94.8	75	65.8	211	90.6	
Lived outside of Afghanistan in last 5 years							<0.001
No	104	60.1	45	39.5	175	75.1	
Yes	69	39.9	69	60.5	58	24.9	
Monthly income, median (Afghanis[a])							<0.001
<7500	53	30.5	36	31.6	168	72.1	
>7500	120	69.5	78	68.4	65	27.9	
Ever pregnant							<0.001
Yes	148	85.5%	71	62.3%	209	89.7%	
Total pregnancies							<0.001
Mean (SD)	4.29	(3.23)	2.80	(2.89)	4.45	(2.95)	
Desire pregnancy currently	20	11.7%	10	8.8%	19	8.2%	0.473
Current contraceptive use[b]							
Any	106	68.4%	101	97.1%	196	91.6%	<0.001
Specific methods							
Condoms	43	34.7%	13	11.7%	8	3.7%	<0.001
Oral contraceptive pills	11	8.5%	40	44.0%	42	19.6%	<0.001
Injectables	4	3.2%	28	25.2%	110	51.2%	
IUD	9	7.3%	7	6.3%	12	5.6%	0.827
Sterilization	3	2.4%	0	0%	23	10.7%	<0.001
Douching/withdrawal	12	9.7%	0	0%	1	0.47%	<0.001
Of 428 women with prior pregnancies							
Mean live birth (SD)	4.02	(2.71)	3.38	(2.11)	4.25	(2.30)	<0.001
Prior miscarriage/stillbirth	39	26.4%	10	14.1%	49	23.4%	0.263
Prior pregnancy termination	47	31.8%	39	54.9%	56	26.8%	<0.001
Prior unplanned pregnancy	71	48.0%	43	60.6%	43	20.6%	<0.001

[a]US $1 = 50 Afghanis.
[b]Of women not desiring pregnancy ($n = 471$).
IUD, intrauterine device; SD, standard deviation.

nancy termination, the mean number of prior terminations was 1.72 standard deviation [SD] ± 0.99). In logistic regression models controlling for site, pregnancy termination was associated with the following sex work-related variables: having sold sex outside the city of residence, providing anal sex to clients, and having 12 or more clients monthly (Table 2). The odds of prior pregnancy termination also increased with number of prior pregnancies, lifetime alcohol or illicit drug use, and having a prior unplanned pregnancy. In multivariable logistic regression analysis controlling for site and number of pregnancies, higher (≥12/month) client volume adjusted odds ratio [AOR] 2.28, 95% confidence interval [CI] 1.19-4.40), prior unplanned pregnancy (AOR 2.01, 95% CI 1.36-2.96), ever selling sex outside the city of residence (AOR 2.00, 95% CI 1.72-2.33), and alcohol use (AOR 1.87, 95% CI 1.42-2.46) remained independently associated with prior pregnancy termination.

Women not desiring pregnancy ($n = 471$) were assessed for contraceptive use, of whom 69 were not using any method; these FSWs were deemed to have an unmet need for contraception. Reasons for not using contraception were expense (26.1%), no need because having anal sex (21.5%), dislike side effects (16.9%), belief that methods are not effective (13.8%), currently menopausal (6.2%), and other reasons. Unmet need was associated with selling sex outside the city and inversely associated with lifetime drug use in logistic regression analysis controlling for site (Table 3). In site-controlled multivariable analysis, having sold sex outside the city of residence (AOR 1.88, 95% CI 1.28-2.77) remained independently positively associated, whereas lifetime drug use (AOR 0.41, 95% CI 0.31-0.53) remained negatively associated with unmet need.

Discussion

There is little information available about sex work in Afghanistan; however, the level of contraceptive use observed in this population of FSWs exceeds both the national and the Kabul metropolitan area CPR (35.2%) reported in 2005.[11] Currently in Afghanistan, contraception is promoted by the

Table 2. Variables Associated with Prior Pregnancy Termination Among Female Sex Workers with Any Prior Pregnancies in Three Afghan Cities in Site-Controlled Univariate Logistic Regression ($N = 428$)

Variable	*Overall* (n = *428*)	*Prior pregnancy termination* (n = *134*)	*OR*	*95% CI*
	Mean ± SD	*Mean ± SD*		
Age	29.96 ± 6.37	30.18 ± 6.50	1.01	0.97-1.05
Age coital debut	17.92 ± 3.10	18.25 ± 3.37	1.05	0.93-1.18
Duration of sex work	5.79 ± 4.21	6.11 ± 4.33	1.03	0.95-1.10
Number of pregnancies	4.90 ± 2.72	5.89 ± 2.90	1.22	1.04-1.44
	n (%)	*n (%)*		
Ever married	422 (98.6)	138 (97.2)	0.24	0.01-6.14
Any formal education	95 (22.2)	31 (21.8)	0.97	0.86-1.10
Lived outside Afghanistan in last 5 years	168 (29.3)	68 (49.6)	1.79	0.71-4.52
Sold sex outside city of residence	77 (18.0)	34 (24.1)	1.80	1.43-2.26
≥12 clients/month	206 (48.1)	94 (66.2)	3.04	1.22-7.57
Condom use with clients in last 6 months ($n = 250$)[a]	107 (42.8)	48 (53.3)	1.96	0.96-3.98
Provide anal sex to clients	79 (18.5)	35 (24.6)	1.80	1.16-2.78
Any alcohol use	21 (4.91)	11 (7.75)	2.32	1.29-4.16
Any illicit drug use	30 (7.01)	15 (10.6)	2.13	1.13-4.03
Prior unplanned pregnancy	140 (36.5)	65 (50.4)	2.44	1.18-5.04
Current contraceptive use	338 (86.4)	113 (85.0)	0.83	0.42-1.62
Current unmet need	51 (11.9)	20 (14.9)	1.30	0.66-2.56

[a]Number of women with prior pregnancy who had ever used condoms.
CI, confidence interval; OR, odds ratio.

government for birth spacing, and injectable systemic hormonal methods, OCs, IUDs, and condoms are available through both public and private venues. However, cultural constraints on women's access to care, popular beliefs about potential side effects, and fees associated with methods are known barriers to use in this setting.[17] The higher level of contraceptive use we observed may reflect acknowledgment of unintended pregnancy as an occupational hazard or, given that many FSWs were currently married, may indicate an intent to avoid pregnancy because of either added economic hardship or any paternity disputes. The significantly lower level of contraceptive use and greater reliance on condoms among FSWs in Kabul was surprising, given available resources and nominally priced contraception in the capital city. Women in Mazar-i-Sharif and Jalalabad were more likely to use systemic hormonal methods, which may reflect the influence of Pakistan or the Central Asian Republics. Contraceptive prevalence and potential availability is greater in these bordering countries, and perceptions about detrimental side effects associated with hormonal methods may be less prevalent.[17,18]

Pregnancy termination in Afghanistan is currently restricted to situations where the mother's life is endangered. However, in this socially conservative setting with very low contraceptive prevalence, unsafe abortion occurs and potentially contributes to the high maternal mortality and mor-

Table 3. Variables Associated with Unmet Need for Contraception Among Female Sex Workers Not Desiring Pregnancy in Three Afghan Cities in Site-Controlled Univariate Logistic Regression ($N = 471$)

Variable	*Overall* (n = *471*)	*Unmet need for contraception* (n = *69*)	*OR*	*95% CI*
	Mean ± SD	*Mean ± SD*		
Age	28.66 ± 6.75	28.86 ± 7.85	1.01	0.89-1.04
Age coital debut	18.86 ± 3.72	18.07 ± 3.57	1.01	0.87-1.17
Duration of sex work	3.88 ± 3.63	6.16 ± 5.32	1.05	0.91-1.22
Number of pregnancies	3.06 ± 2.69	4.61 ± 3.90	1.06	0.82-1.36
	n (%)	*n (%)*		
Ever married	401 (85.1)	53 (76.8)	0.51	0.03-9.55
Any formal education	107 (22.7)	13 (18.8)	0.76	0.37-1.55
Lived outside Afghanistan in last 5 years	175 (37.2)	25 (36.2)	0.95	0.52-1.76
Sold sex outside city of residence	89 (18.9)	18 (26.5)	1.68	1.16-2.44
≥12 clients/month	246 (52.2)	34 (49.3)	0.87	0.28-2.67
Condom use with clients in last 6 months	27 (9.4)	15 (55.6)	1.65	0.27-10.14
Provide anal sex to clients	111 (23.6)	18 (26.1)	1.17	0.12-11.59
Any alcohol use	24 (5.1)	2 (2.9)	0.52	0.08-3.43
Any illicit drug use	37 (7.9)	4 (5.8)	0.69	0.52-0.91
Prior pregnancy termination	142 (30.1)	20 (29.0)	1.30	0.66-2.56
Prior unplanned pregnancy	143 (37.3)	24 (38.7)	1.07	0.51-2.24

bidity rates, particularly in cases of pregnancy outside of marriage.[19] Although Pakistan has similar abortion laws, procedural training may be more updated and, consequently, safer[20]; proximity to these services in Pakistan and a lower proportion of married women may explain why prior pregnancy termination was more common among FSWs in Jalalabad.

Having sold sex outside the city of residence was associated with both prior termination and unmet need for contraception. The association with prior termination may reflect greater availability of abortion in other countries, as mentioned previously. However, having sold sex outside the city of residence may represent an additional barrier to accessing contraceptive services for those moving to a new city, accounting for the association with unmet need for contraception. Migration appears to affect condom use among FSW populations although not in a uniform fashion, with lower odds of condom use in Vietnam and higher condom use with anal sex in Mexico. There has been no specific assessment of the effect of migration on contraception among FSWs, however.[21,22] There was no association between current unmet need and prior pregnancy termination, indicating barriers to contraceptive access or use may not be affected by the psychological and physical impact of the procedure.

Prior pregnancy termination was associated with higher numbers of monthly clients, prior unplanned pregnancy, and lifetime alcohol use. The association between high client number and pregnancy termination may stem from lack of contraceptive use because of lower economic means, as higher client number has been associated with lower service fees among FSWs in Indonesia.[23] In this scenario, termination may function as a contraceptive method. Alcohol or drug use may interfere with correct and consistent use of contraception, particularly condoms or other coitally dependent methods, as noted in other settings.[25,26] Illicit drug use was negatively associated with unmet need, unlike the situation described in Brazil and Russia, where drug use increased the likelihood of inconsistent or nonuse of contraception.[25,26] However, unmet need was defined as nonuse; inconsistent use was not assessed, although inconsistent use of condoms with client and nonclient partners was common.[27] The reported prevalence of prior pregnancy termination was much higher than anticipated, and we did not inquire about the reasons for termination, such as method failure or lack of method access. This important topic should be assessed in subsequent studies among this population.

There are important limitations to this study that must be considered. We did not collect details about prior abortions, such as where the procedure was obtained, the level of provider performing the procedure, gestational age at time of procedure, and technique used. This information is important for understanding the availability of services and whether termination results from inability to access contraception and should be included in subsequent evaluations. Results may not be generalized to FSWs in the study sites because of convenience sampling only through outreach programs. This recruitment strategy may have resulted in a sample with greater contraceptive use, as noted in comparison with the CPR measured among Afghan women.[11] Having interviewer-administered questionnaires may have caused underreporting of certain outcomes, particularly pregnancy termination, in this conservative setting. We attempted to minimize this by having female interviewers; self-administered questionnaires were not feasible because of low literacy, and the cost of Audio Computer-Assisted Self-Interview (ACASI) or similar technology was prohibitive. Finally, some women may have been enrolled who were not actually sex workers, as we relied on self-report and confirmation of status through program participation. Monitoring of enrollment and interviews and intensive training/retraining of staff to determine if responses were consistent with the stated experience were employed to minimize this occurrence.

Conclusions

Reported contraceptive use among FSWs in Afghanistan is quite high. However, prior unplanned pregnancy and terminations were common, particularly for women who had sold sex outside their current city of residence, which may indicate inconsistent use of contraceptive methods. The findings indicate that reproductive health services inclusive of contraceptive provision should be integrated into FSW-oriented programs, with ongoing counseling to ensure choice of methods conforms to changes in need over time.

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Disclosure Statement

No competing financial interests exist.

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