Published in final edited form as:

Int J Gynaecol Obstet. 2013 January ; 120(1): 27–31. doi:10.1016/j.ijgo.2012.07.026.

Induced abortion, contraceptive use, and dual protection among female sex workers in Moscow, Russia

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Abstract

Objective—To describe abortion history and current contraceptive use among female sex workers (FSWs) in Moscow, Russia.

Methods—A clinic-based survey was conducted among 147 FSWS in Moscow during an 8-month period in 2005.

Results—In total, 83 of 143 (58.0%) FSWS reported a history of abortion, with 45 of 143 (31.5%) indicating multiple abortions. Condoms were the primary form of contraception (145/146 [99.3%]); just 17 of 142 (12.0%) FSWS reported using non-barrier modern contraception. All women who reported using a non-barrier modern method also indicated condom use (i.e. dual protection). Non-barrier contraceptive use was associated with inconsistent condom use (odds ratio [OR] 3.10; 95% confidence interval [CI], 1.07–9.02) and multiple abortions (OR 4.71; 95% CI, 1.19–18.62).

Conclusion—The results illustrate substantial risk for unintended pregnancy among FSWS. Further research is needed regarding the dynamics of non-barrier contraception and condom use. Efforts to improve the health and wellbeing of FSWS should include access to safe and effective contraception, in addition to HIV prevention.

Keywords

Abortion; Condom use; Contraception; Dual protection; Female sex workers

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Conflict of interest

The authors have no conflicts of interest.

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1. Introduction

Historically, health-related interventions for female sex workers (FSWs) have focused on reducing the risk of infectious disease. There has been a surprisingly little amount of research and programmatic attention regarding the reproductive health of FSWs, despite the risk for unintended pregnancy that may similarly result from frequent—and often unprotected—sex. A small but growing body of research illustrates significant risk for unintended pregnancy among FSWs, including low levels of contraceptive use [1–5], in addition to prevalent unintended pregnancy and abortion [1–6]. These data are particularly concerning in light of the recent UNAIDS guidance note emphasizing reliable and affordable access to health-related commodities, including contraceptives, within its call for comprehensive and sustainable HIV prevention programming [7]. There exists an urgent need to identify and resolve unmet contraception needs among FSWs, particularly in high-risk settings.

Russia is one such high-risk setting. Nationally, an estimated 15.6% of FSWs are HIV seropositive [8]. Moscow is home to an estimated 120 000 FSWs [9], many of whom are found in street-based “tochkas” (roadside locations that clients can drive up to) [10] or more elite venues such as saunas, salons, clubs, and hotels. Although contraception and abortion data for the nation and its major cities remain sparse, Russia has the highest rate of induced abortion in the Eastern Europe/Central Asia region at 950.94 per 1000 live births [11]—illustrative of chronic unmet contraception needs. In 2003, 53% of sexually active women in the general population used a modern method of contraception (i.e. barrier, hormonal, intrauterine device [IUD], or sterilization), with contraceptive use slightly higher (57%) in the urban centers of Moscow and St Petersburg [12]. Unintended pregnancy is common [13]; the widespread use of induced abortion as a birth control method [14] dates back to the Soviet era, when contraceptives were not readily available. Despite the legality and high prevalence of induced abortion, complications are common—occurring in 13.7% of patients within 6 months, compared with a range of 0.9%–6.1% among first-trimester abortion patients in France, Denmark, and the USA [13]. Although induced abortion-related morbidity is not systematically documented in Russia, it is widely assumed to be high [11]. These data clearly render unintended pregnancy and resultant abortion a significant threat to women’s health and wellbeing in this context.

There is a clear need to understand patterns of non-barrier contraceptive use among FSWs. Non-barrier methods such as oral contraceptives and IUDs provide a higher pregnancy prevention efficacy relative to condoms [15] and enable greater control. These methods hold particular relevance for FSWs, given the significant challenges they face in ensuring successful condom use (e.g. client resistance and refusal, often enforced through physical threats and abuse) [16,17], as well as condom failures [18]. The longstanding concern that non-barrier contraception could prompt women to abandon condoms and, thus, incur risk for HIV/sexually transmitted infection (STI) has generated recommendations for dual prevention (i.e. condom use for HIV/STI prevention, coupled with non-barrier modern contraceptive methods) [19].

To date, patterns of non-barrier method use among FSWs, and the extent to which users simultaneously use condoms, are poorly understood. The aim of the present study was to examine reproductive health history, including induced abortion as a proxy for unintended pregnancy, and current contraceptive use among FSWs in Moscow.

2. Materials and methods

A survey was conducted from February 15 to September 25, 2005, at the SANAM clinic in Moscow, which provides services to marginalized populations. The study was conducted in

collaboration with AIDS Infoshare, which is a Moscow-based HIV education and prevention organization. Female sex workers were recruited at the clinic; the study was also publicized through a combination of outreach activities and word of mouth, with “mammachkas” (madams) and FSWs inviting other FSWs to participate. Eligibility criteria included being women aged between 17 and 40 years, intending to remain in Moscow for at least 12 months, and engaging in sex work. Sex work was defined as receiving money, drugs, or other valuables in exchange for sex. All participants gave informed consent before responding to a behavioral survey administered in Russian. Participants received a cash incentive equivalent to US \$20 for participation in the 2.5-hour study visit. The study protocol was approved by Institutional Review Boards at the Johns Hopkins Bloomberg School of Public Health, Baltimore, USA, and the Third Medical and Stomatological Institute, Moscow, Russia. Further details have been published elsewhere [20].

The survey included questions assessing pregnancy history, abortion history, and number of abortions experienced. Contraceptive use was assessed via the question “what do you do to prevent pregnancy when having sex with clients?” This question was followed by a list of methods (condoms; creams or gel for topical use before sex; creams or gel for topical use after sex; douching; withdrawal; “don’t have sex during certain times of month” [i.e. periodic abstinence]; IUD; sterilization; birth control pills; or other). Participants could indicate more than 1 method, and had the option of “nothing” to reflect no contraceptive use with clients. Those reporting the use of oral contraceptives, IUD, or sterilization were classified as using non-barrier modern contraception. Participants were classified as dual protection users if they reported using condoms in conjunction with any of the 3 highly effective non-barrier modern methods. A subsequent question asked women how often they used condoms with clients; those responding “always” were considered consistent condom users. Participants also provided data on demographic characteristics, working conditions, injection drug use, and experience of violence by clients. Women were considered to have experienced violence by clients if they responded affirmatively to the question “has a client ever done things to you that have hurt you physically?” and reported that at least 1 such instance took place in the past 12 months.

Descriptive statistics were calculated for pregnancy history, abortion history, contraceptive use with clients, dual protection, and consistent condom use for vaginal sex with clients. Descriptive statistics on abortion history based on demographic characteristics, working conditions, consistency of condom use, injection drug use, and client violence were calculated and evaluated via χ^2 analyses and odds ratios (ORs) constructed via logistic regression. $P < 0.05$ was considered to be statistically significant. Similar analyses were conducted to describe non-barrier contraceptive methods. A floating sample size was used to accommodate small amounts of missing data; no variable was missing more than 5% of its values. All analyses were conducted using Stata version 11 (StataCorp, College Station, TX, USA).

3. Results

In total, 101 of 145 (69.7%) FSWs reported ever having been pregnant (Table 1). Eighty-three of 143 (58.0%) participants had ever had an abortion, and 45 of 143 (31.5%) reported having had 2 or more abortions. Overall, 145 of 146 (99.3%) FSWs indicated that they used condoms as a contraceptive method with clients. The second most frequently reported pregnancy prevention method was douching (109/146 [74.7%]). A substantial proportion reported using traditional methods such as periodic abstinence (14/146 [9.6%]) and withdrawal (26/146 [17.8%]), while a smaller proportion reported using non-barrier modern methods (17/142 [12.0%]), including oral contraceptive pills (15/145 [10.3%]) and IUD (2/146 [1.4%]). Dual protection (condoms coupled with non-barrier contraceptive methods)

was reported by 17 of 143 (11.9%) FSWs—that is, all participants who used non-barrier methods also indicated condom use. Only 116 (78.9%) participants who reported condom use were consistent users.

Abortion history was significantly associated with increased age, with those who were at least 25 years old significantly more likely to report such an experience relative to their younger counterparts (OR 3.04; 95% confidence interval [CI], 1.31–7.05). Abortion history was also associated with having at least 1 child (29/39 [74.4%] among those with children vs 53/102 [52.0%] among those without [OR 2.68; 95% CI, 1.18–6.07; $P=0.02$]). Abortion was more common among FSWs working in non-street venues relative to those employed in street tochkas (43/61 [70.5%] vs 40/82 [48.8%] [OR 2.51; 95% CI, 1.25–5.05; $P=0.01$]). No other significant differences were noted (Table 2).

Use of non-barrier modern contraceptive methods was associated with inconsistent condom use with clients (7/30 [23.3%] inconsistent use vs 10/112 [8.9%] consistent use [OR 3.10; 95% CI, 1.07–9.02; $P=0.037$]). Compared with participants with no abortion history, those with 2 or more abortions were more likely to report using non-barrier methods (3/58 [5.2%] vs 9/44 [20.5%] [OR 4.71; 95% CI, 1.10–18.62; $P=0.027$]) (Table 3).

4. Discussion

Overall, the high prevalence of abortion in the present sample of FSWs in Moscow indicates a substantial unmet contraceptive need and significant risk for unintended pregnancy. More than half of participants reported ever having had an abortion, with almost one-third indicating multiple abortions. Non-barrier modern contraceptive use was reported by 12.0% of participants, all of whom also reported using condoms as a contraceptive method (i.e. dual protection). The findings advance a small but growing body of evidence regarding the reproductive health needs of sex workers and begin to shed much-needed light on the complex interplay of condom and non-barrier contraceptive use among this high-risk group. Few prior studies have reported on dual protection among FSWs, although evidence indicates that these women sometimes use condoms in addition to other supplemental methods, often non-barrier modern contraception [2,5]. The finding that all participants reporting use of a non-barrier contraceptive method also indicated condom use may partially allay concerns that pregnancy prevention methods could inadvertently supplant HIV/STI prevention methods—specifically, condoms—among FSWs.

Notably, use of non-barrier contraception was significantly associated with inconsistent condom use with clients. This finding could reflect a perceived decreased need for condoms when using other pregnancy prevention methods, as has been demonstrated in non-FSW populations [21,22]. This interpretation should be considered with caution; evidence from other settings indicates that decreased condom use observed with hormonal contraceptive use varies based on partner risk perception, such that hormonal contraceptive use does not compromise condom use when partners are perceived to be at higher risk of HIV [23]. The primacy of HIV concerns among FSWs in the present setting [17] would argue against the idea that sex workers would forgo condom use with clients when using non-barrier contraception. Significant condom negotiation barriers have been documented among FSWs [17], so inconsistent use may reflect barriers to condom use rather than a lack of intention to use condoms. Thus, the observed association between inconsistent condom use and use of non-barrier modern methods may reflect FSWs taking a proactive approach to these barriers (i.e. protecting themselves against pregnancy even when HIV/STI risk may not be avoidable). Furthermore, uptake of non-barrier methods, or lack thereof, may be driven by factors outside the sex work context (e.g. pregnancy prevention intentions, including those with non-paying partners such as boyfriends or spouses). Finally, it is worrisome that three-

quarters of participants reported douching as a pregnancy prevention method, given reported associations between this practice and pelvic inflammatory disease, gonorrhea, and chlamydia [24].

The relatively even distribution of abortion history across the sample indicates the need for general promotion of contraception in this population. Older age and use of non-barrier modern contraception were significantly associated with abortion history. Abortion may motivate uptake of non-barrier modern methods or serve as an entry point to ongoing contraceptive and reproductive health care, as has been demonstrated in other settings [6]. Further research is needed to clarify this finding because the present cross-sectional study did not enable the temporality of abortion relative to contraceptive initiation to be established. Abortion was associated with working at non-street-based venues such as clubs and hotels. This finding may be indicative of a greater ability to pay for such a procedure, given the relatively higher status and earnings among those in establishment-based sex work.

As awareness of the family-planning needs of FSWs increases, further research is needed regarding the interplay of condom use and the use of non-barrier modern contraception, extending beyond the limitations of the current investigation. Qualitative research can clarify the intentions and motivations underpinning the use of non-barrier contraception and its link with inconsistent condom use. Quantitative research should include measures related to pregnancy intentions, access to reproductive health services, and preferences concerning contraceptive methods, as well as motivation for condom use in order to understand the extent to which it is underpinned primarily by pregnancy prevention, HIV/STI prevention, or both. Negative experiences and other barriers to care seeking should be considered because they may, in part, underpin the low levels of non-barrier contraceptive use. Recent evidence from Uzbekistan illustrates that FSWs with multiple abortions often undergo second-trimester abortions—further indicating barriers to accessing care [2]. Investigation among service providers is also necessary to understand their perceptions of pregnancy intentions and reproductive health needs among FSWs. For example, family-planning professionals may shy away from recommending condoms owing to their lower contraceptive efficacy, while HIV prevention specialists may fear that women who adopt non-barrier modern contraception will abandon condoms.

Several additional limitations should be considered. The relative dearth of contraception and abortion data for Russia as a whole, and Moscow specifically, compromised the ability to determine the extent to which FSWs are at unique risk in the present setting. The extent to which the findings generalize to the broader FSW population of Moscow is uncertain because a response rate could not be estimated accurately owing to the inclusion of chain referral among the outreach methods to potential participants. Generalizability may be limited by the clinic-based nature of the study and the eligibility requirement of intending to remain in Moscow for at least 1 year. Although the present study was limited in scope to contraception in commercial sex encounters, the contraceptive needs of FSWs with both paying and non-paying partners should be considered. Female sex workers were classified as dual method users based on a standard contraceptive use question specific to clients; greater precision may be possible through the use of a refined measure asking specifically about dual method use. All data were self-reported and may, therefore, be associated with inaccuracies stemming from social desirability, recall bias, intentional distortions, or non-candid responses. Although the sample was heterogeneous, it did not include FSWs working in railways or truck stops, or those under the age of 18 years.

Overall, the findings indicate unmet contraceptive need and significant risk for unintended pregnancy among FSWs in a nation with a high prevalence of abortion. The present research

demonstrates the need to promote access to effective non-barrier contraceptive methods for those who seek pregnancy prevention, while emphasizing the dual protection afforded by condoms for HIV prevention. Further work is needed to explore these dynamics among other marginalized, economically vulnerable populations in Moscow and elsewhere. The primary focus of FSW-related research and intervention efforts is on HIV-related risk; the current evidence demonstrates an urgent need to expand these efforts and consider the reproductive health of this population.

Acknowledgments

The study was supported by the National Institute on Drug Abuse (R01 DA15005) and the Fogarty International Center (FIC # 2 D 43 TW000010-20-AITRP).

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Synopsis

Female sex workers in Moscow demonstrated significant risk for unintended pregnancy. More than half reported a history of abortion and the majority relied on condoms for contraception.

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Table 1Participant characteristics and reproductive history (n=147) ^a

Characteristic	Value
Age, y	22.6 ± 3.9
Nationality	
Native Russian	69 (46.9)
Immigrant	78 (53.1)
Highest education level	
Below secondary	39 (26.5)
Secondary or higher	108 (73.5)
Has boyfriend/spouse	68/145 (46.9)
Has children	39/143 (27.3)
Work venue	
Street tochka	84 (57.1)
Non-street venue	63 (42.9)
Duration as sex worker	
6 months	39/146 (26.7)
7–12 months	25/146 (17.1)
13–24 months	33/146 (22.6)
>24 months	49/146 (33.6)
Inconsistent condom use for vaginal sex with clients	31 (21.1)
Ever used injection drugs	26 (17.7)
Client physical violence	107/141 (75.9)
Reproductive history	
Ever pregnant	101/145 (69.7)
Abortion history	
Ever had abortion	83/143 (58.0)
Had 1 abortion	38/143 (26.6)
Had 2 abortions	45/143 (31.5)
Contraceptive use with clients ^b	
Condom	145/146 (99.3)
Non-barrier modern methods	
Oral contraceptive pills	15/145 (10.3)
Intrauterine device	2/146 (1.4)
Sterilization	0 (0.0)
Any non-barrier modern method	17/142 (12.0)
Other methods	
Douche	109/146 (74.7)
Withdrawal	26/146 (17.8)
Topical substance after sex	23/146 (15.8)
Topical substance before sex	21/146 (14.4)
Periodic abstinence or calendar method	14/146 (9.6)

Characteristic	Value
Other	8/146 (5.5)
Nothing	3/146 (2.1)
Dual protection with clients ^c	17/143 (11.9)
Consistent condom use for vaginal sex with clients	116 (78.9)

^aValues are given as mean $\pm$ SD or number (percentage).

^bNot mutually exclusive.

^cDual protection defined as reporting both non-barrier modern method and condom use.

Table 2Associations with ever having an abortion among female sex workers in Moscow (n=143) ^a

	Ever had abortion ^b	P value	Odds ratio (95% confidence interval)
Total	83 (58.0)	—	—
Age, y		0.008	
17–24	54/105 (51.4)		Ref.
25	29/38 (76.3) ^c		3.04 (1.31–7.05)
Nationality		0.248	
Native Russian	38/68 (55.9)		Ref.
Immigrant	45/75 (60.0)		1.18 (0.61–2.30)
Highest education level		0.983	
Below secondary	22/38 (57.9)		Ref.
Secondary or higher	61/105 (58.1)		1.01 (0.48–2.14)
Has boyfriend/husband		0.916	
No	43/75 (57.3)		Ref.
Yes	39/67 (58.2)		1.04 (0.53–2.02)
Has children		0.016	
No	53/102 (52.0)		Ref.
Yes	29/39 (74.4) ^d		2.68 (1.18–6.07) ^d
Work venue		0.009	
Street tochka	40/82 (48.8)		Ref.
Non-street venue	43/61 (70.5) ^c		2.51 (1.25–5.05) ^d
Duration as sex worker		0.797	
6 months	21/38 (55.3)		Ref.
7–12 months	15/24 (62.5)		1.35 (0.47–3.84)
13–24 months	17/32 (53.1)		0.92 (0.36–2.36)
>24 months	30/48 (62.5)		1.35 (0.57–3.21)
Inconsistent condom use for vaginal sex with clients		0.623	
Consistent condom use	65/114 (57.0)		Ref.
Inconsistent condom use	18/29 (62.1)		1.23 (0.53–2.85)
Ever used injection drugs		0.348	
No	67/119 (56.3)		Ref.
Yes	16/24 (66.7)		1.55 (0.62–3.91)
Client physical violence		0.607	
No	18/33 (54.5)		Ref.
Yes	62/104 (59.6)		1.23 (0.56–2.71)

^aValues are given as number (percentage) unless otherwise indicated.^bRow percentages.^c $P < 0.01$.^d $P = 0.05$.

Table 3

Use of non-barrier modern contraceptive methods with clients among female sex workers in Moscow (n=142)

^a

	Uses non- barrier modern contraceptive method ^b	<i>P</i> value	Odds ratio (95% confidence interval)
Total	17 (12.0)		
Age, y		0.737	
17–24	12/105 (11.4)		Ref.
25–40	5/37 (13.5)		1.21 (0.40–3.70)
Nationality		0.295	
Native Russian	6/67 (9.0)		Ref.
Immigrant	11/75 (14.7)		1.75 (0.61–5.02)
Education		0.800	
Below secondary	4/37 (10.8)		Ref.
Secondary or higher	13/105 (12.4)		1.17 (0.35–3.83)
Has boyfriend/husband		0.653	
No	7/73 (9.6)		Ref.
Yes	8/67 (11.9)		1.28 (0.44–3.74)
Has children		0.339	
No	14/101 (13.9)		Ref.
Yes	3/38 (7.9)		0.53 (0.14–1.97)
Work venue		0.375	
Non-street venue	8/81 (9.9)		Ref.
Street tochka	9/61 (14.8)		1.58 (0.57–4.36)
Duration as sex worker		0.328	
6 months	2/38 (5.3)		Ref.
7–12 months	4/24 (16.7)		3.60 (0.61–21.4)
13–24 months	3/32 (9.4)		1.86 (0.29–11.9)
>24 months	8/47 (17.0)		3.69 (0.73–18.6)
Inconsistent condom use for vaginal sex with clients		0.031	
Consistent condom use	10/112 (8.9)		Ref.
Inconsistent condom use	7/30 (23.3)		3.10 (1.07–9.02) ^c
Ever used injection drugs		0.547	
No	15/118 (12.7)		Ref.
Yes	2/24 (8.3)		0.62 (0.13–2.93)
Client physical violence		0.552	
No	3/32 (9.4)		Ref.
Yes	14/105 (13.3)		1.49 (0.40–5.54)
Ever had abortion		0.050	
No	3/58 (5.2)		Ref.
Yes	13/82 (15.9)		3.45 (0.94–12.73)
Number of abortions		0.055	

	Uses non- barrier modern contraceptive method ^b	<i>P</i> value	Odds ratio (95% confidence interval)
0	3/58 (5.2)		Ref.
1	4/38 (10.5)		2.16 (0.45–10.23)
2	9/44 (20.5) ^c		4.71 (1.19–18.62) ^c

^aValues are given as number (percentage) unless otherwise indicated.

^bRow percentages.

^c*P* 0.05.