



## INTRODUCTION

FSWs have been identified as a high-risk population group for the transmission and acquisition of STIs and HIV. According to recent studies from 50 countries, the probability of HIV transmission among FSWs was 13.5 times higher than for other women (Baral *et al.*, 2012). Moreover, because of the large number of sexual partners and unprotected sexual practises, FSWs can acquire bacterial sexually transmitted diseases that can lead to severe complications, such as infertility. One of the significant factors contributing to the spread of STI/HIV among FSW is the lack of knowledge about STI/HIV prevention as well as about condoms.

According to a report of the Vietnam Administration of HIV/AIDS Control (VAAC), Ba Ria – Vung Tau is one of eight provinces/cities in which the HIV rate is significantly higher than the average rate of the country (VAAC, 2013c). Since 2004, media communication activities have been implemented to change risky behaviour, plus providing free condoms and STI treatment for FSWs in the “hot spots” of the HIV epidemic in Ba Ria – Vung Tau province. However, the province still has no actual data indicating STI/HIV-related knowledge, attitudes and sexual practices towards STI/HIV among FSWs in this population. Therefore, this research aims to investigate STI/HIV-related knowledge, attitudes and sexual practices in FSWs in the province. This information is critical to provide evidence for assessment, orientation and intervention plans in the future.

## METHODS

**Study Design:** A cross-sectional study design

**Target population for the study:** FSWs in Ba Ria – Vung Tau, Vietnam

**Types of FSW recruited:**

+ **Direct FSW:** Those providing direct sexual services, also known as street FSWs who often work in parks, railway stations, bus stations, ferries, coffee shops, alleyways, on the streets and beaches (sitting next to their customers). Their income is mainly derived from sex services and typically, they do not have any other source of income.

+ **Indirect FSW:** Those providing indirect sexual services, also known as restaurant FSWs who usually work in restaurants, hotels, karaoke bars, garden cafes, “bia ôm” (hug beer) restaurants (places which customers can drink beer with services of FSWs such as hugging, kissing, and even sex) massage venues, or hair dressing services. These FSWs have two income sources: the first source was from non-sexual services or sale of food, beverages and the second source was from the sexual services.

**Sample methods:** The following procedures were considered: respondent-driven sampling (RDS), take-all sampling, systematic random sampling and time location sampling (TLS).

**Survey Questionnaire:** The questionnaire was compiled and modified from an existing questionnaire used in the Integrated Biological and Behavioural Surveillance (IBBS) survey among FSWs in Vietnam (MOH Vietnam, USAID, & CDC, 2011), with some additional questions.

**Data Management and Analysis:** A database was entered using Epidata 3.1 software and analysed using Statistical Package for the Social Sciences (SPSS) version 21.0.

**Ethical Considerations:** The ethical considerations of the study were jointly approved prior to the start by the Human Research Ethics Committee of Griffith University and the Department of Health in Ba Ria – Vung Tau province.

## RESULTS

### The socio-demographic profile of participants

Socio-demographic Profile	Total n (%)	Direct FSWs n (%)	Indirect FSWs n (%)	OR (95% CI)	P-value
<b>Age Group</b>		166	254		
<b>Mean</b>	27.91	28.20	27.72		
<b>Median</b>	27	27	27		
<b>Range</b>	18-40	18-40	18-38		
<b>Ethnicity</b>	420	166	254		
<b>Kinh</b>	385 (91.7)	153 (92.2)	232 (91.3)	1.11 (0.54 - 2.28)	0.763
<b>Religion</b>	420	166	254		
<b>Buddhism</b>	281 (66.9)	101 (60.8)	180 (80.9)		0.006
<b>Other religions</b>	40 (24.1)	59 (23.2)	99 (23.6)		
<b>No religion</b>	40 (9.5)	25 (15.1)	15 (5.9)		
<b>Education level</b>	420	166	254		
<b>Low (Under grade 5)</b>	182 (43.3)	94 (56.6)	88 (34.6)		<0.001
<b>Medium (Grade 6-9)</b>	128 (30.5)	43 (25.9)	85 (33.5)		
<b>High (Grade 10 or over)</b>	110 (26.2)	29 (17.5)	81 (31.9)		
<b>Marital status</b>	420	166	254		
<b>Single</b>	104 (24.8)	45 (27.1)	59 (23.2)		<0.001
<b>Married/ Cohabiting</b>	202 (48.1)	61 (36.7)	141 (55.5)		
<b>Divorced/Widowed</b>	114 (27.1)	60 (36.1)	54 (21.3)		
<b>Living status</b>	420	166	254		
<b>Alone</b>	128 (30.5)	39 (23.5)	89 (35.0)		0.039
<b>Husband/ Boyfriends</b>	118 (28.1)	53 (31.9)	65 (25.6)		
<b>Relatives/ Friends</b>	174 (41.4)	74 (44.6)	100 (39.4)		
<b>Employed before becoming FSWs</b>	420	166	254		
<b>Not employed</b>	265 (63.1)	124 (74.7)	141 (55.5)		<0.001
<b>House work</b>	39 (9.3)	18 (10.8)	21 (8.3)		
<b>Full-time work</b>	10 (2.4)	3 (1.8)	7 (2.8)		
<b>Part-time work</b>	43 (10.2)	8 (4.8)	35 (13.8)		
<b>Casual work</b>	43 (10.2)	10 (6.0)	33 (13.0)		
<b>Student</b>	20 (4.8)	3 (1.8)	17 (6.7)		
<b>Source of Income</b>	420	166	254		
<b>Sex work</b>	169 (40.2)	133 (80.1)	36 (14.2)	24.41 (14.52 - 41.02)	<0.001
<b>Other jobs</b>	251 (59.8)	33 (19.9)	218 (85.8)		
<b>Monthly Income</b>	420	166	254		
<b>Low (≤ AUD \$200)</b>	38 (9.0)	26 (15.7)	12 (4.7)		<0.001
<b>Medium (AUD \$200 to 400)</b>	281 (67.0)	114 (68.7)	167 (65.7)		
<b>High (≥ AUD \$400)</b>	101 (24.0)	26 (15.7)	75 (29.5)		

## RESULTS

### Alcohol and drug use behaviours of FSWs

Alcohol and drug use behaviours	Total n (%)	Direct FSWs n (%)	Indirect FSWs n (%)	OR (95% CI)	P-value
<b>Ever drunk alcohol</b>	420	166	254		
<b>At least once a week</b>	346 (82.4)	145 (87.3)	201 (79.1)	1.82 (1.05 - 3.15)	0.031
<b>Never drink</b>	74 (17.6)	21 (12.7)	53 (20.9)		
<b>Ever have sex when drunk</b>	346	145	201		
<b>Yes</b>	167 (48.3)	82 (56.6)	85 (42.3)	1.77 (1.15 - 2.73)	0.009
<b>Using condoms during sexual intercourse while drunk</b>	167	90	87		
<b>Yes</b>	105 (62.9)	44 (53.7)	61 (71.8)	0.46 (0.24 - 0.86)	0.016
<b>Ever heard or known about drugs and IDUs</b>	420	166	254		
<b>Yes</b>	218 (51.9)	108 (65.1)	110 (43.3)	2.44 (1.62 - 3.65)	<0.001
<b>Ever used drugs</b>	218	108	110		
<b>Yes</b>	51 (23.4)	34 (31.5)	17 (15.5)	2.51 (1.30 - 4.85)	0.005
<b>Ever injected drugs</b>	218	108	110		
<b>Yes</b>	2 (0.9)	2 (1.9)	0 (0.0)	2.04 (1.77 - 2.33)	0.152
<b>Have any clients who inject drugs</b>	420	166	254		
<b>Yes</b>	57 (13.6)	40 (24.1)	17 (6.7)	4.43 (2.41 - 8.12)	<0.001

## RESULTS

### Sexual behaviours of FSWs

Sex Behaviours	Total n (%)	Direct FSWs n (%)	Indirect FSWs n (%)	OR (95% CI)	P-value
<b>Age of first sexual intercourse</b>	420	166	254		
<b>Mean</b>	19.00	18.51	19.31		
<b>Median</b>	18	18	19		
<b>Range</b>	13-28	13 - 24	14 - 28		
<b>Age of first working as FSWs</b>	420	166	254		
<b>Mean</b>	22.57	23.10	22.22		
<b>Median</b>	22	23	22		
<b>Range</b>	16-33	16 - 33	16 - 31		
<b>Working duration as FSWs</b>	420	166	254		
<b>1 year or below</b>	237 (56.4)	64 (38.6)	173 (68.1)		<0.001
<b>2 - 3 years</b>	91 (21.7)	29 (17.5)	62 (24.4)		
<b>4 years or above</b>	92 (21.9)	73 (44.0)	19 (7.5)		
<b>Mean</b>	2.24	3.19	1.62		
<b>Median</b>	1	3	1		
<b>Range</b>	1-7	1-7	1-5		
<b>Worked as FSWs in other places</b>	420	166	254		
<b>Yes</b>	316 (75.2)	121 (72.9)	195 (76.8)	0.81 (0.52 - 1.27)	0.368
<b>Worked as FSWs abroad</b>	420	166	254		
<b>Yes</b>	31 (7.4)	20 (12.0)	11 (4.3)	3.02 (1.41 - 6.49)	0.003
<b>Number of paying clients</b>	420	166	254		
<b>Over 15</b>	180 (42.9)	138 (83.1)	42 (16.5)	24.88 (14.73 - 42.01)	<0.001
<b>15 or below</b>	240 (57.1)	28 (16.9)	212 (83.5)		
<b>Type of sexual intercourse</b>	420	166	254		
<b>Had oral sex</b>	342 (81.4)	142 (85.5)	200 (78.7)	1.59 (0.94 - 2.71)	0.080
<b>Had anal sex</b>	74 (17.6)	44 (26.5)	30 (11.8)	2.69 (1.61 - 4.50)	<0.001
<b>Inconsistent condom use with paying clients in most recent time</b>	420	166	254		
<b>First time/new customers</b>	401	158	243		
<b>Yes</b>	61 (15.2)	37 (23.4)	24 (9.9)	2.79 (1.59 - 4.88)	<0.001
<b>Regular customers</b>	403	157	246		
<b>Yes</b>	88 (21.8)	48 (30.6)	40 (16.3)	2.27 (1.40 - 3.66)	0.001
<b>Unprotected sex with non-paying partners in most recent time</b>	420	166	254		
<b>Yes</b>	42 (34.7)	25 (53.2)	17 (23.0)	3.81 (1.73 - 8.38)	0.001

## CONCLUSIONS

- FSWs participated in the survey, with a median age of 27 years, within a range of 18-43 years. Many (43.3%) had minimal education (grade 5 or less).
- Most claimed religious affiliation (90.5%) and 91.7% were of Kinh ethnicity.
- At 63.1%, the unemployment rate before becoming FSWs was high.
- There were significant differences between direct/indirect types of FSWs in terms of: education levels (OR=2.46, 95% CI: 1.65-3.67, p=0.001); marital status, including married or cohabiting (OR=2.14, 95% CI: 1.43-3.207, p=0.001); unemployment before becoming FSWs (OR=2.36, 95% CI: 1.54-3.63, p=0.001); low income ≤ A\$200 (OR=3.74, 95% CI: 1.83-7.65, p=0.001); and number of paying clients in the last month >15 (OR=24.88, 95% CI: 14.73-42.01, p=0.001).
- Inconsistent condom use with regular and new clients was 21.8% and 15.2% respectively.
- Most (89.0%) FSWs performed oral sex, also a high proportion (82.4%) of them consumed alcohol. Nearly half (48.3%) have had sex when drunk.
- Regarding drug use, 23.4% FSWs have used drugs and 26.1% have clients who use or inject drugs.

**FSWs in Vietnam need targeted intervention programs and improved services to prevent HIV and STIs infection. Administrative and political support for improved health education and services are required to prevent the epidemic from spreading.**

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