Prevalence of HIV Infection and Risk Factors among female sex workers in Ba Ria – Vung Tau, Vietnam

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Introduction

The Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) still remains one of the most severe public health issues around the world with approximately 36.9 million people were living with HIV at the end of 2014 (UNAIDS, 2015). FSWs have been identified as a high-risk population group for the transmission and acquisition of HIV. According to recent studies from 50 countries, the probability of HIV transmission among FSWs was 13.5 times higher than for other women (Bal et al., 2012).

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, 2013a). However, the province still has no actual data indicating the prevalence of the infection among FSWs in this population. Therefore, this research aims to assess the prevalence of HIV infections and risk factors in FSWs in the province.

Significance of the research: This prevalence-oriented research is essential in providing evidence for assessment, orientation and interventional plans in the future.

Methods

Study Design: A cross-sectional study design

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

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 (MCH Vietnam, USAID, & CDC, 2011), with some additional questions.

Biological sample collections: HIV testing was performed using enzyme-linked immunosorbent assay (ELISA) tests and one rapid test using immunochromatography.

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

Sexual behaviours and HIV prevalence

<table>
<thead>
<tr>
<th>Age of first sexual intercourse</th>
<th>HIV infection</th>
<th>OR (95% CI)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 or below</td>
<td>221 (52.6)</td>
<td>1.2</td>
<td>0.049</td>
</tr>
<tr>
<td>20 or below</td>
<td>91 (21.7)</td>
<td>0.79</td>
<td>0.776</td>
</tr>
</tbody>
</table>

Working as FSWs

| Over 2 years                   | 183 (43.6)    | 3.56       | 0.048   |
| Worked as FSWs in other places | 31 (75.2)     | 0.38       | 0.107   |
| Worked as FSWs abroad           | 31 (74)       | 5.14       | 0.011   |

Number of paying clients in the last month

| Over 15                           | 180 (42.9) | 3.76 | 0.042   |

Type of sexual intercourse

| Had oral sex                     | 342 (81.4) | 0.38 | 0.124   |
| Had anal sex                     | 74 (17.6)  | 6.02 | 0.001   |

Inconsistent condom use with paying clients in recent time

| New customers                    | 61 (15.2)  | 7.31 | <0.001  |
| Regular customers                | 88 (21.8)  | 4.54 | 0.008   |

Conclusions

• A total of 166 direct and 254 indirect FSWs participated in the survey. 2.6% (11/420) FSWs were found to be HIV positive. There was a difference in HIV prevalence among direct and indirect FSWs (4.8% and 1.2%, OR=4.23; 95% CI 1.11-16.21; p=0.022).

• There were associations between HIV infection and several risk behaviors:
  • Age of first sex experience ≤ 18 (OR=4.18, p=0.049);
  • Worked as FSWs abroad (OR=5.10, p=0.011);
  • Number of paying clients in the last month >15 (OR=3.67, p=0.042);
  • Had anal sex (OR=5.42, p=0.004);
  • Inconsistent condom use with regular customers (OR=4.54, p<0.008) and new customers (OR=7.31, p=0.001).

• Alcohol/drugs were additional risk factors with ever having sex when drunk (OR=4.45, p=0.042);

• Unprotected sex during sexual intercourse while drunk (OR=5.52, p=0.023);

• Ever having used drugs (OR=13.12, p<0.001);

• Having any clients who used drugs (OR=6.19, p=0.005) being significantly associated with HIV infection.

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