

Adverse Childhood Experiences increase the lifetime experience of violence poly-victimization among female sex worker in Hai Phong, Vietnam

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ABSTRACT

Violence against female sex workers (FSW) is understudied in Viet Nam. In this cross-sectional study, we examined the relationship between exposure to Adverse Childhood Experiences (ACEs) with experiencing lifetime interpersonal violence by a pimp, intimate partner, or others, and poly-victimization among FSWs in Hai Phong, Viet Nam. A time-location sampling recruitment methodology was used to enroll 310 FSWs in Hai Phong city, north Viet Nam. Using an adapted version of the WHO-Multi-Country Study on Violence against Women Survey Instrument, four types of interpersonal violence were assessed (physical, sexual, economic, and emotional) for three perpetrator groups (intimate partner; client; and others including relatives, police, strangers, and FSWs) after age 18 years, ACEs before age 18 years were measured using the ACE-Q. The lifetime prevalence of poly-victimization violence across the three perpetrator groups was higher in the FSW who had ACEs than those who had no/fewer ACEs. The logistic regression analysis showed that any and 2+ ACEs have significantly adjusted associations with lifetime exposure to interpersonal violence, including poly-victimization, by different types of perpetrators. Further studies on this causal effect need to be implemented to prevent violence among FSWs.

Keywords: female sex worker, poly-victimization, violence, Viet Nam

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INTRODUCTION

Globally, cis-gender female sex workers (FSWs) face a disproportionate burden of gender-based violence (GBV) with significant consequences on their health and social inequality, such as an elevated burden of HIV and other sexually transmitted infections and poor reproductive and mental health outcomes(1–4). Since the criminalization of this work in many countries, including Vietnam, FSWs often are forced to live a hidden existence, which can increase their vulnerability to

experiences of violence in their workplace from a range of perpetrators, including clients, co-workers, pimps, and police, as well as in their community from private militias, religious groups and others who may perceive sex workers to be immoral and blame them for the spread of HIV and STIs. FSWs also experience high levels of intimate partner violence (5). Moreover, FSWs may self-stigmatize, accepting the blame of society and high risk of HIV exposure, contributing further to their isolation and vulnerability to violence (6,7).

Adverse childhood experiences (ACEs) are traumatic events that occur in childhood. ACEs include violence, abuse, and growing up in a family with mental health or substance use problems. Toxic stress from ACEs can change brain development and affect how the body responds to stress (8). Numerous studies over the past two decades have found a link between ACEs and poor adult health outcomes (9–11). However, research is limited on the association between ACEs and experiences of violence in adulthood among female sex workers.

Poly-victimization, defined as experiencing multiple types of violence, crime, abuse, or victimization, is a concept that originated in child abuse research but has been studied in other vulnerable populations, including FSWs (12,13). Among FSWs, there is evidence of high levels of poly-victimization, where multiple forms of violence co-occur and interact with each other. A recent study conducted among 754 FSWs in Russia showed that experiencing client violence was independently associated with police violence (adjusted relative risk [ARR] = 2.77, 95% confidence interval [CI] [1.67, 4.59]), intimate partner violence (IPV) (ARR = 3.67, 95% CI [1.95, 6.89]), and pimp violence (ARR = 5.26, 95% CI [2.80, 9.86]); client violence may drive exposure to other types of violence and enable poly-victimization (13). Moreover, many individual, occupational, and structural level factors may heighten the risk of poly-victimization, such as condom negotiation, servicing a higher number of clients and nonpaying partners, protracted continuity in sex work, age, drug and alcohol abuse, being HIV positive, financial/livelihood insecurity, educational status, residential status (migrant or local dweller), soliciting

for clients in public places, and/or servicing clients in open spaces (14).

We conducted the first cross-sectional study to explore the violence experience among 310 cisgender FSWs in Hai Phong, Viet Nam in 2022. Our findings showed that FSWs are exposed to high rates of multiple forms of violence by multiple perpetrators. For any male client-perpetrated violence (CPV), the lifetime prevalence was 70.0%. The lifetime prevalence of IPV by a male partner was 62.1%. The lifetime of physical and/or sexual violence by other perpetrators (OPV- including pimps, coworkers, strangers, acquaintances or the police) was 18.1%. Overall, 21.6% of FSWs reported having experienced all three forms of violence (IPV, CPV, and OPV) in their lifetime. In addition, 65% of FSWs reported at least one type of ACE. The number of ACEs experienced was correlated with a higher lifetime experience of poly-victimization (5). Upon those findings, we conducted this secondary analysis aimed to examine the impact of ACE on poly-victimization exposure in adults by testing the unadjusted and adjusted associations of different types of exposure to lifetime interpersonal violence and poly-victimization with exposure to any ACEs, 2 or more ACEs, and the number of ACEs. Four types of violence in adulthood were assessed, including sexual violence (SV), physical violence (PV), emotional violence (EV), and economic violence (EcV) accounting for the perpetrator's relationship to the FSW, including male intimate partner, male client and others (pimps, coworkers, stranger, acquaintance or police).

MATERIALS AND METHOD

Research subjects

The target population included FSWs in Hai Phong, who were cisgender women, at least 18 years of age, self-identified as FSW, and reported having traded sex for money, drugs, shelter, or other material benefit within the past month.

Location and time of research

The study was conducted in seven urban districts in Hai Phong from August 2022 to February 2023.

Research design: Cross-sectional study.

Study sample size: 310 FSWs were involved in the study.

Sampling method

We used the time-location sampling to recruit 310 FSWs from 7 districts in Hai Phong city based on the map of venues including bars, brothels, hotels and motels, alleys, and street corners conducted by the trained CBOs, which served as the sampling frame for identifying potential FSWs in each district. Members of community-based organizations (CBOs) referred interested and eligible FSWs to the study site, where the study procedures were conducted. Visits were organized at one of two CBO offices (community sites) in Hai Phong from October to November 2022.

Recruitment process

After being referred to the study site and screened for eligibility, potential participants took part in an informed consent process that a public health doctor from Hai Phong University of Medicine and Pharmacy (HPUMP) performed. Once consent was offered and the participant enrolled in the study, trained interviewers administered a questionnaire that included questions about sociodemographic characteristics and experiences of gender-based violence. Each in-person interview lasted approximately 90 minutes, and participants received 150,000 VND (\$6) as compensation for their time.

Data collection

Measurements: The World Health Organization (WHO)-Multi-Country Study on Violence Against Women survey instrument was adapted based on focus group discussion with the FSWs and CBO members in Hai Phong to measure GBV against FSWs. This tool has been utilized in two national surveys conducted in 2010 and 2019 to assess GBV against the general adult female population in Viet Nam (15). In this adapted version, four types of violence were assessed, including sexual violence (SV; 3 items), physical violence (PV; 6 items), emotional violence (EV; 4 items) and economic violence (EcV; 6 new items). Question sets were repeated for the following types of perpetrators: male clients, male intimate partners, and others (police, family members, pimps, other sex workers).

For male clients and male intimate partner perpetrators, all four types of GBV were assessed. For the other perpetrators, two types of GBV—physical and sexual violence—were assessed. For each reported act of violence, respondents were asked whether it had happened ever in her lifetime (lifetime violence), and, if so, whether it happened in the prior 12 months.

ACEs were measured using the ACEs Questionnaire (ACE-Q) (16). The questionnaire has 10 items that measure 10 different experiences of adversity in childhood, defined as before the age of 18 years. One item each for a total of five items captured personal experiences of: physical abuse, verbal abuse, sexual abuse, physical neglect, and emotional neglect. The remaining five items captured adverse experiences involving other family members: an alcoholic parent, a mother who was a victim of domestic violence, a family member in jail, a family member diagnosed

with a mental illness, and the disappearance of a parent through divorce or abandonment. The response options for each item were ‘yes’ or ‘no.’

Information collection techniques: Direct interviews with research subjects at study sites, time for each interview was 30 - 45 minutes.

Processing and analyzing data

The collected data were entered and cleaned using Epidata 3.1 software and analyzed using STATA 14.0 software. Statistical tests included calculating percentages, comparing ratios using the χ^2 test, and assessing the statistical significance of differences across groups using a threshold level of $p < 0.05$. We implemented unadjusted and adjusted logistic regression models analysis of lifetime interpersonal violence, by type of perpetrator, and lifetime

poly-victimization on ACEs, the social factors with $p < 0.2$ in univariate analysis were considered to the final in the adjusted model. Two model of ACEs exposure were conducted: model 1: any ACE compared to none ACE; model 2: 1 ACE, 2+ACEs compared to none ACE.

Ethical considerations

The study protocol was approved by the Institutional Review Board of Haiphong University of Medicine and Pharmacy (decision number: 08/IRB-HPMU). The participants underwent a written consent process before interviewing. The participants who reported experiences of violence were informed about violence victim support services and were referred to medical services, such as testing for HIV, sexually transmitted diseases, and opioid substitution treatment if needed.

RESULTS

Characteristics of participants by Adverse Childhood Experiences

The median age of FSWs in the group who experienced ACEs and who do not experience of ACEs were 32 years (IQR 22-40) and 36 (IQR 23-44), respectively. In both groups, about one third had more than a high-school level education, and the majority were ethnic “Kinh”. Regarding marital status, most were either single or divorced/separated. There were no differences between ACEs exposed and non-exposed group regarding HIV (+) prevalence, duration of sex work employment, as well as type of sex work and monthly income. There was a significant difference related to having a current intimate partner whereby FSWs without ACEs were more likely to have a current intimate partner than those who had experienced any ACEs (Table 1).

Table 1. Characteristics of female sex workers in Haiphong (N=310) by ACEs exposure

	Any ACEs (n=204)	No ACEs (n=106)	p-value
Age (Median, IQR 25-75)	32 (22-40)	36 (23-44)	0.06
Age group (years old)			
<40	147 (72.1)	64 (60.4)	0.03
≥ 40	57 (27.9)	42 (39.6)	
Place of birth (N, %)			
Hai Phong	116 (56.9)	55 (51.9)	0.40
Other provinces	88 (43.1)	51 (48.1)	
Schooling			

Never been to school	12 (5.9)	9 (8.5)	0.72
Primary school	39 (19.1)	18 (17.0)	
Middle school	78 (38.2)	44 (41.5)	
High school or higher	75 (36.8)	35 (33.0)	
Ethnicity			
<i>Kinh</i>	187 (91.7)	90 (84.9)	0.06
Others	17 (8.3)	16 (15.1)	
Marital status			
Single (Never married)	81 (39.7)	44 (41.5)	0.27
Living in couple (legally married or have a wedding)	44 (21.6)	15 (14.2)	
Divorced/Separated	79 (38.7)	47 (44.3)	
Had current male intimate partner	117 (57.4)	87 (82.0)	<0.01
Self-reported HIV+ (252 ever tested)			
Positive	3 (1.8)	1 (1.1)	0.57
Negative	162 (98.2)	86 (98.9)	
Sex work employment timing (years)			
≤ 5	110 (53.9)	60 (56.6)	0.27
6-10	40 (19.6)	26 (24.5)	
> 10	54 (26.5)	20 (18.9)	
Type of sex			
Established/managed-based	80 (75.5)	132 (64.7)	0.05
Street/solo-based and mixed	26 (24.5)	72 (35.3)	
Median monthly income (USD) (IQR 25-75)	434.7 (347.8-782.6)	521.7 (347.8-869.6)	0.39

Lifetime poly-victimization among FSWs by ACEs Exposure

In terms of violence perpetrated by male clients, among the FSWs who experienced of ACEs, the lifetime violence prevalence was 79.4%, reported across 58.8% for PV, 61.3% for SV, 67.2% for EV, and 42.7% for EcV (Table 2). Among the FSWs who did not experience ACEs, the lifetime violence prevalence was 51.9%, reported across 25.5% for PV, 34.0% for SV, 33.0% for EV, and 22.6% for EcV. The difference was statistically significant across ACEs groups ($p < 0.01$).

A similar pattern was observed across ACEs exposed and ACEs non-exposed groups in the prevalence of violence perpetrated by male intimate partners (IP) and other perpetrators than IP and clients. The lifetime violence prevalence perpetrated by male IP was 40.2%, with 23.0% for PV, 22.0% for SV, 31.4% for EV, and 24.5% for EcV in the ACEs FSWs ($p < 0.01$); while the lifetime prevalence was 13.2%, reported among 5.7% for PV, 4.7% for SV, 7.6% for EV, and 4.7% for EcV among non-ACEs exposed FSWs ($p < 0.01$). Any physical or sexual violence by other perpetrators in the past year was reported as 25.5% and 3.8%, respectively for each group ($p < 0.01$). Overall, the prevalence of poly-victimization of prior-year violence was 82.4% among FSWs with ACEs, significantly higher than that in FSWs without ACEs (53.8%) (Table 2).

Table 2. Lifetime violence among female sex workers in Hai Phong, by ACEs exposure

Lifetime interpersonal violence	Any ACEs (n=204)		No ACEs (n=106)		p-value
	n	%	N	%	
Violence perpetrated by male client					
Physical violence	120	58.8	27	25.5	<0.01
Sexual violence	125	61.3	37	34.0	<0.01
Emotional violence	137	67.2	35	33.0	<0.01
Economic violence	87	42.7	24	22.6	<0.01
Any form of violence	162	79.4	55	51.9	<0.01
Violence perpetrated by male intimate partner					
Physical violence	47	23.0	6	5.7	<0.01
Sexual violence	49	22.0	5	4.7	<0.01
Emotional violence	64	31.4	8	7.6	<0.01
Economic violence	50	24.5	5	4.7	<0.01
Any form of violence	82	40.2	14	13.2	<0.01
Violence perpetrated by others (pimps, FSWs, acquaintance, stranger)					
Physical violence	43	21.1	4	3.8	<0.01*
Sexual violence	34	16.7	1	0.9	<0.01*
Any form of violence	52	25.5	4	3.8	<0.01*
Poly-victimization of lifetime violence	168	82.4	57	53.8	<0.01

*Fisher's exact test

The results of logistic regression models for the unadjusted and adjusted odds of lifetime interpersonal violence by level of exposure to ACEs are presented in Table 3. In the Model 1, the ACEs exposure increased the risk of interpersonal violence in adulthood by three types of perpetrators and as well as lifetime poly-victimization ($p < 0.01$). The highest aOR of ACEs exposure was 6.6 (95% CI 2.27-19.1) in the lifetime violence by other perpetrators (Table 3).

In the Model 2, the 2+ ACEs exposure increased the risk of interpersonal violence experience in adulthood by all of three types of perpetrators as well as lifetime poly-violence compared to 1 ACE and none ACE exposure ($p < 0.01$) with aOR from 2 to 7 times (Table 3).

Table 3. Unadjusted and adjusted logistic regression models of lifetime interpersonal violence, by type of perpetrator, and lifetime poly-victimization on ACEs, 310 FSW in Hai Phong, Vietnam

Lifetime Interpersonal Violence in Adulthood Outcomes	Unadjusted		Adjusted ^a	
	uOR	95%CI	aOR	95% CI
1. Lifetime Violence by Male Client Perpetrator				
Model 1				
Any ACES (ref: None)	3.57	2.14-5.95 ^c	2.92	1.67-5.09 ^c
Model 2				
1 ACE (ref: None)	2.78	1.33-5.79 ^c	2.81	1.28-6.18 ^d

2+ ACES (ref: None)	3.93	2.25-6.85 ^c	2.96	1.61-5.43 ^c
2. Lifetime Violence by Male Intimate Partner Perpetrator				
Model 1				
Any ACES (ref: None)	4.41	2.35-8.27 ^c	3.45	1.54-7.68 ^c
Model 2				
1 ACE (ref: None)	1.97	0.83-4.63	1.99	0.65-6.05
2+ ACEs (ref: None)	5.60	2.93-10.70 ^c	3.99	1.74-9.18 ^c
3. Lifetime Violence by Other Perpetrators^b				
Model 1				
Any ACES (ref: None)	8.72	3.06-24.86 ^c	6.60	2.27-19.1 ^c
Model 2				
1 ACE (ref: None)	4.63	1.32-16.2 ^c	4.36	1.21-15.6 ^d
2+ ACEs (ref: None)	10.4	3.60-29.9 ^c	7.44	2.52-21.9 ^c
4. Lifetime Poly-Victimization (all 3 perpetrators)				
Model 1				
Any ACES (ref: None)	4.01	2.37-6.77 ^c	3.07	1.71-5.49 ^c
Model 2				
1 ACE (ref: None)	2.57	1.23-5.37 ^d	2.52	1.12-5.63 ^d
2+ ACEs (ref: None)	4.81	2.68-8.65 ^c	3.38	1.77-6.45 ^c
^a Adjusted for age, ethnicity, current male intimate partner, and type of sex (p-value <0.20 in Table 1)				
^b Pimps, other FSWs, acquaintance, stranger				
^c p-value <0.01				
^d p-value <0.05				

DISCUSSION

We found high levels of violence poly-victimization, including physical, sexual, emotional and economic violence in the lifetime among female sex workers in Hai Phong. Most violence was perpetrated by clients, followed by male intimate partners. Violence by pimps/manager and other perpetrators was lower but still common. Our study provides important information that emotional violence by clients and male partners was the most common form of violence experienced by FSWs over their lifetime. These results highlight the vulnerability of female sex workers to being an illegal and easily stigmatized profession.

One of our most compelling findings reveals a striking connection between ACEs exposure and various forms of interpersonal violence. Through the use of two logistic multivariate regression models that accounted for confounding factors such as age, partner status, type of sex work, and ethnicity, we uncovered a troubling pattern: the risk of violence escalated not only with exposure to any ACE but was much higher for individuals with two or more ACEs. Most remarkably, we identified a consistent association between the experience of multiple ACEs and elevated lifetime exposure to violence inflicted by others. This insight underscores the urgent need to address the deeply-rooted impacts of ACEs

on vulnerable populations. Although not all factors were significant in the multivariate model, the results were similar to those found elsewhere (1,14,17). Notably, among the factors that increased the risk of violence among our study subjects was their current participation in a peer group or sex worker group. It may seem counterintuitive that peer groups were established to increase support for FSWs who have experienced violence. Still, since this was a cross-sectional study that cannot demonstrate causality, it may be that FSWs who have experienced violence are more likely to need support and may be more motivated to participate in peer groups. Further research is necessary to understand the nature of this association in this context to design appropriate interventions. One study found that good communication, social support, and trust were associated with reduced risk of intimate partner violence, suggesting that in the context of long-term intimate partner relationships, strategies to reduce intimate partner violence are similar across all populations regardless of whether or not they are involved in sex work (18). The findings also suggest a link between increased violence and alcohol or drug use. This result suggests other potential health risks for FSWs, such as HIV and sexually transmitted infections. In addition to interventions that address signs of alcohol misuse, other services, including health services or drug and alcohol services, may provide essential entry points for referral of those at risk of violence.

Gender inequality and GBV experiences can influence education and career choices in adulthood. Still, little is understood about why the likelihood of violence remains higher even when choosing the same occupation as sex work. Experiencing or witnessing violence in childhood may result

in predisposing children to potentially violent situations in adulthood. This finding is significant in a society where domestic violence against women and children is often accepted as the norm and where prevention, response, and support services remain inadequate despite laws prohibiting violence against women and children in Vietnam.

Our study had several limitations. Violence perpetrated by individuals other than clients and intimate partners may have been underreported due to the order in the questionnaire (which asked after the client and intimate partner experiences), especially by pimps or brothel managers, who tended to control the timing and movements of FSWs during our survey. Additionally, our measure of IPV only concerned current intimate partners and did not capture experiences of IPV from former partners. We also did not assess the individual contribution of each ACE category on adult violence risk.

In conclusion, this study underscores the strong link between early adversity and adult exposure to violence among FSW. In light of the interconnectedness among various experiences of early adversity, adult violence prevention actions should carefully consider how early traumatic experiences may exacerbate the risk of ACE in later re-victimization. By deepening our understanding of the links among various forms of violence, we can develop coordinated strategies that effectively combine resources to prevent multiple forms of violence at once, strengthening the health impact and preventing violence before it begins among this key population. Practitioners and researchers should consider these linkages in their work and develop and strengthen integrated services that acknowledge and incorporate the associations between adversity in childhood,

subsequent exposure to violence, and health outcomes across the lifespan. We know that adverse experiences in childhood can lead to lifelong health issues and violence in the general population, but they can be prevented. The intervention strategies should concentrate on ensuring that all children have safe, stable, nurturing relationships and environments that may help them reach their full potential by preventing early adverse experiences before they occur and protecting against poor outcomes for adults who have already experienced adversity.

CONCLUSIONS AND RECOMMENDATIONS

Exposure to ACEs has a strong and consistent adjusted association with lifetime interpersonal violence by clients, intimate partners, others, and overall, among FSWs in Haiphong. Intervention strategies to strengthen the general well-being of female sex workers in Viet Nam should recognize and address the high risk of childhood adversity and its cascading harms among FSWs.

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