

**Related factors of high HIV prevalence and effectiveness of existing
intervention programs for controlling HIV transmission on female
sex workers in Ha Tinh province, Viet Nam**

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Related factors of high HIV prevalence and effectiveness of existing intervention programs for controlling HIV transmission on female sex workers in Ha Tinh province, Viet Nam

A thesis submitted in partial fulfillment of the requirement for the degree of Master of Public Health

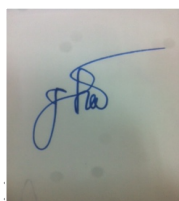
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Signature

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Table of Content

Table of Content	i
Acknowledgement	iii
List of Table and Figure	iv
Abbreviations.....	v
Abstract.....	vii
Introduction	1
I. Chapter 1: Background Information.....	2
1.2 Health system and public health issues.....	4
1.2.1 Health system in Vietnam.....	4
1.2.2 Health issues in Vietnam	8
II. Chapter 2: Problem statement, Justification, Objectives, and Methodology	9
2.1 Problem statement.....	9
2.2 Justification	10
2.3 Research objective	11
2.4 Research methodology.....	11
2.4.1 Research design	11
2.4.2 Target population and time setting	11
2.4.3 Search strategy.....	11
2.5 Conceptual framework: The Social-Ecological Model (SEM).....	13
III. Chapter 3: Study findings.....	15
3.1 The factors related to transmission of HIV among FSW in Ha Tinh	15
3.1.1 Intrapersonal factors	15
3.1.2 Interpersonal factors	18
3.1.3 Organizational factors.....	20
3.1.4 Community factors	23
3.1.5 Public policies factors.....	25
3.2 The result of HIV intervention programs among FSWs in Ha Tinh.....	26
3.2.1 Strengthening knowledge and change attitude and behavior to prevented transmission of HIV.....	26
3.2.2 Increasing awareness of HIV infection risk of FSWs in Ha Tinh.....	27
3.2.3 Improving practical skills of safe sex measures	28
3.2.4 Reduce of HIV prevalence among FSWs in Ha Tinh	28
IV. Chapter 4: Discussion.....	29
4.1 The factors effected to high prevalence of HIV among FSW	29

4.1.1	Interpersonal factors	29
4.1.2	Interpersonal factors	30
4.1.3	Organizational factors.....	31
4.1.4	Community factors	31
4.1.5	Public policies and laws system.....	31
4.2	The result of HIV intervention for reducing prevalence of HIV among FSWs in Ha Tinh.....	32
4.2.1	Strengthening knowledge and change attitude and behavior for FSWs.....	32
4.2.2	Effectiveness of strengthening awareness of HIV infection risk of FSWs ..	32
4.2.3	Effectiveness of raising the rate of condom use and practice of safe sex ...	33
4.2.4	Reduce prevalence of HIV among FSW	33
V.	Chapter 5: Conclusions and recommendations	34
5.1	Conclusion	34
5.2	Recommendation	35
	References	36
	Anex.....	Error! Bookmark not defined.

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List of Table and Figure

1. Table 1: Search Strategy
2. Table 2: The Social-Ecological Model, Mc Leroy, 1988
3. Table 3: Prevalence of HIV infected among FSW in Ha Tinh
4. Table 4: The result of IEC and BBC programs among FSW from 2007 to 2014 in Ha Tinh
5. Table 5: Proportion of condom use among FSW in Ha Tinh
6. Figure 1: Map of Vietnam
7. Figure 2: Map of Ha Tinh
8. Figure 3: Health System structure in Vietnam
9. Figure 4: HIV/AIDS prevention model in Vietnam
10. Figure 5: The Social-Ecological framework
11. Figure 6: The evaluate results of HIV intervention programs framework among FSW in Ha Tinh
12. Figure 7: Prevalence of HIV among FSW in Ha Tinh from 2011 to 2014

Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
ART	Anti- Retrovirus Treatment
BCC	Behaviour Change Communication
FSW	Female Sex Worker(s)
HIV	Human Immunodeficiency Virus
HSS+	HIV Sentinel Surveillance Plus
HTC	HIV Testing and Counseling
IBBS	Integrated Biological and Behavioral Surveillance
IEC	Information Education and Communication
KIT	Koninklijk Instituut voor de Tropen
KP	Key Population
MOH	Ministry of Health
MSM	Men who have Sex with Men
NGO	Non-Government Organization
PAC	Provincial AIDS Committee/Center
PE	Peer Educators
PWID	People who Inject Drug
STI	Sexually Transmitted Infection(s)
VAAC	Vietnam Administration of HIV/AIDS Control
GOPFP	General Office for Population Family Planning
GARPR	Vietnam AIDS Response Progress Report
WHO	World Health Organization
PLHIV	People living with HIV

HP Health Department

WB World Bank

GF Global Funds

MOLISA Ministry of Labor, War Invalids and Social Affairs

SEM The Social-Ecological Model

Abstract

Background: An understanding of factors influencing prevalence of HIV among FSWs in order to increase the efficiency of HIV prevention. In addition, the study will evaluate the results of implementing the intervention program for FSW in Ha Tinh in order to adjust and improve the effectiveness of HIV intervention programs in the coming years.

Method: This study was conducted by literature review methods (narrative review). The document used in this study includes English and Vietnamese in which includes published and sub-published studies and research related to the factors of HIV infection among FSWs. Also use the studies and reports evaluating the effectiveness of HIV interventions carried out among FSWs in Ha Tinh.

Finding: Unsafe sex, many of sex partners, lack of knowledge of HIV transmission and violence are the major contributing factors to the transmission of HIV among FSWs in Ha Tinh. The transmission of HIV among FSWs was also affected by other factors such as stigma and discrimination of themselves, family, friends and society. In addition other factors affecting to the prevalence of HIV among FSWs also derived due to the barrier when exposed to HIV intervention programs as policies, laws, cultural factors and social norms.

The study also assessed the results of the HIV intervention programs implemented among FSWs in Ha Tinh. The effective that the program offers include change the trends of HIV transmission among FSWs, and improve knowledge, attitudes and safe sexual behavior. In addition the program also contributed to increased access to HIV prevention services and reducing stigma and discrimination against sex workers.

Conclusion and recommendation: Currently, the prevalence of HIV among FSWs in Vietnam and Ha Tinh still higher than general population. There are many factors of this issue affecting include individual, family, social, laws and policies systems. The study also helps understanding the factors of the current situation and recommends evidence-based strategies to reduce high risk behaviors for HIV transmission of FSW in Ha Tinh, by making critical and expanded coverage of HIV prevention services, strengthening communication to eliminate discrimination and stigma against FSWs, in which especially FSWs living with HIV.

Study limited: Limitations of this study is the lack of primary data, the studies are mostly cross-sectional, the differences in social norms and culture among FSWs in Vietnam and other countries when analyzing the related factors.

Key words: FSWs, factors, prevalence of HIV, HIV infection, HIV intervention programs, Ha Tinh province.

Word count: 11980.

Introduction

Since the first cases of Human Immunodeficiency Virus (HIV) infection were found in 1981 in Los Angeles, USA, people with HIV have been available in almost countries in the world. HIV epidemics has been increasingly affecting on the life, economy and society in many countries which force the United Nations and national governments to implement various measures and to mobilize more resources to cope with the epidemics. According to the estimation of the World Health Organization (WHO) in 2014 exclusively, there are about 36.9 million people living with HIV (PLHIV), of which 17.4 million people are women all the world. In addition, the number of deaths from acquired immune deficiency syndrome (AIDS) caused by HIV infection are more than 25 million people as of the epidemics (1).

In Vietnam, since the first case of HIV was detected in Ho Chi Minh in 1990, HIV epidemics has being developing rapidly nationwide and according to the estimation of Vietnam Administration of AIDS Control, by 2014, there are about 224.223 PLHIV, 67.617 cases are in AIDS period and 70.734 people died of AIDS nationwide. However, HIV epidemics in Vietnam is in the concentrated period and the main infection still tends in high-risk groups such as: People who inject drugs (PWID), female sex workers (FSWs) and men who have sex with men (MSM) (2).

Because HIV epidemics significantly affects on the life, economy and society, the study of the factors leading to the high rate of new infections in high-risk groups will help us limit the spread of the epidemics and the impact of the epidemics. When study and evaluation of the rate of new HIV infections in Vietnam in recent years in the high-risk groups, the result shows that the increasing rate of The group of FSWs among new HIV infections. Typically, HIV epidemics among the group of FSWs is at high risk of infection for the community because their partners are very diverse, thereof I want to carry out a general study of the causes increasing HIV among the group of FSWs in the locality to be able to make plans and make effective intervention strategies in the near future to reduce HIV prevalence for FSWs and the community. In addition, the assessment of the effectiveness of intervention programs for the group of FSWs is also vitally important. It helps us to be able to recognize the successes and limitations of the program in reducing the new HIV prevalence among the group of FSWs. Thus, in addition to identify the factors leading to high HIV prevalence among the group of FSWs, the parallel evaluation of the

intervention programs will give us a vision of the trends, provide evidences to mobilize the participation of organizations and individuals and the society in the prevention of HIV infection among the group of FSWs in Ha Tinh.

I. Chapter 1: Background Information

1.1 Characteristic of geographic, social and economic conditions and population

Vietnam is located in the Southeast Asia. Total area of Vietnam is about 330,000 km² and has a coastline of 3,444 km stretching from the North to the South. The North is bordered by China, The East is bordered by the Pacific Ocean, The South is bordered by the Gulf of Thailand, The West is bordered by and Cambodia. Over 70% of the area of Vietnam is mountainous and 42% of the area covered by tropical forests. Vietnam is divided into 7 major economic regions, consisting of 64 provinces and cities. Vietnam is located in the region of tropical monsoon climate (3). Currently, Vietnam is a middle-income country in the world. Vietnam's capital is Ha Noi which is the political and socio-economic center. Before 1986, Vietnam's economy was subsidiary regime and the government controlled all economic activities, but after 1986, Vietnam carried out the "Innovation" program with multiple a multi-component economies. The "Innovation" program has helped Vietnam's economy develop in a rapid and diversified manner with annual GDP growth of about 6%, leading Vietnam into one of the rapidly developing countries of Asia. The economic development leads to social and economic conditions being improved more quickly, the poverty rate being decreased rapidly, the level of education and literacy being improved (4). For the population size, according to the report of the General Office for Population Family Planning (GOPFP) by 2014 exclusively, Vietnamese population is 90 million people of which 49% of men with 44.1 million people, 51% of women with 45.9 million people. Currently, Vietnam has 54 ethnic groups living together in which Kinh accounts for a majority with about 87%, the remaining ethnic minorities account for 13% and they are mainly living in mountainous areas or border regions. Although, geographically, the mountainous area of regions accounts for 70% of the country, 56 million people are mainly concentrated in the plains and urban areas with more favourable social and economic conditions, while less than 34 million people are living in mountainous and rural areas (5). For language, there are various languages and handwritings in

Vietnam, but Vietnamese language is the national language. The development of Vietnamese language was based on Romanized alphabet.

Figure 1: Map of Vietnam

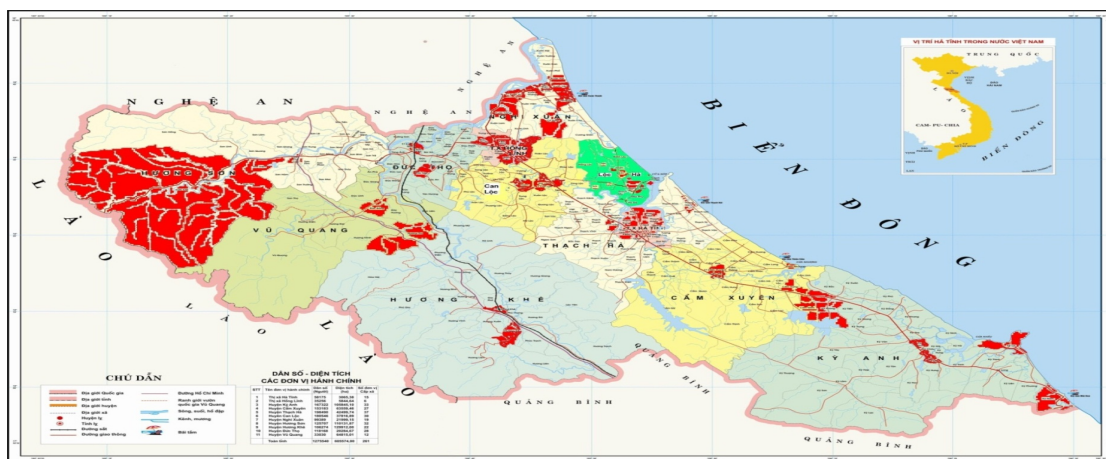


(Sources: <http://www.mapsofworld.com/vietnam/vietnam-political-map.html>)

Ha Tinh is a small province with a total area of 6,055 km² located in the North Central. The West is bordered by Laos, the East is bordered by the sea, the South and the North are bordered by Quang Binh province and Nghe An province. Ha Tinh province is divided into 12 districts with 262 communes,

wards (6). For socio-economic conditions, Ha Tinh province's per capita income is lower than the average capita income of the other places of the country. Ha Tinh's economic conditions are difficult. Although the Government and local authorities have carried out many programs to promote social and economic development, Ha Tinh's per capita income is very low with under USD 1,200 / year, compared to the national average capita income at present. Currently, the social and economic development in Ha Tinh is mainly based on agriculture, the local government, however is also implementing the development of other sectors such as tourism or construction of large-scale industrial parks in order to create a strong growth step to help Ha Tinh's economy reach the national average per capita income (5). According to the report of the Department of population and family planning by 2014 exclusively, Ha Tinh's population is 1,289,058 people. Ha Tinh's population are mainly Kinh ethnicity, accounting for more than 95% of the population, in addition to other peoples as Chut, Van Kieu accounting a negligible quantity (7). Most people in Ha Tinh follow Buddhism (over 80%) in addition to Catholicism (over 10%) and some do not follow any religion(6), (7)

Figure 2: Map of Ha Tinh province



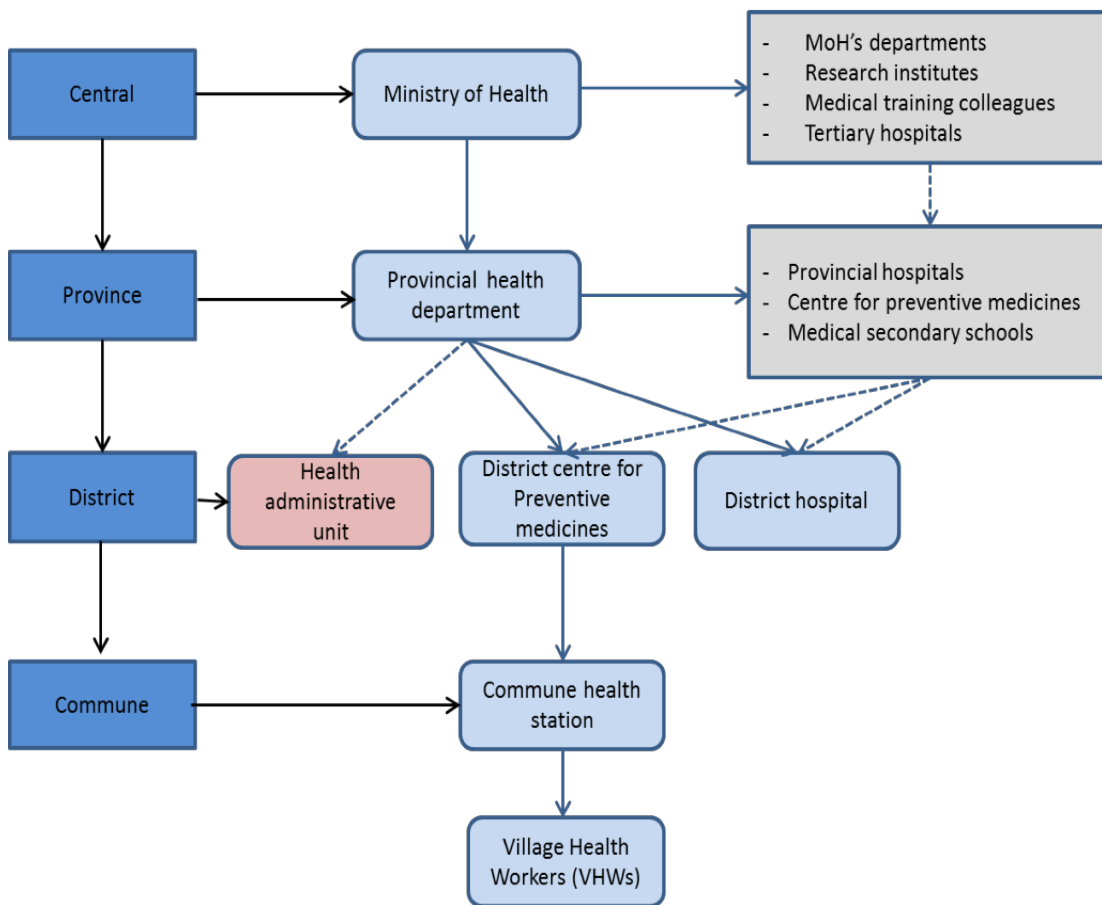
(Source: PAC Hà Tĩnh)

1.2 Health system and public health issues

1.2.1 Health system in Vietnam

Health system in Vietnam is divided into 4 levels which consist of nation, province, district and commune (*figure 3*). At the national level, all professional activities and studies are managed by the Ministry of Health, and the units under the ministry consist of Research institutes, Administrations of all fields and the central hospitals will direct and perform professional activities. At the provincial/city level, activities are conducted under the authority of the Ministry of Health (MOH) and the Health Departments (HP) directly manage and direct the implementation of all activities, the units including the provincial hospitals, centers for preventive medicines and the secondary units will directly carry out professional fields. At the district/town level, the activities are being conducted under the direction of the HP, the hospitals and centers for preventive medicines will directly carry out professional activities. At the commune level, the health units will carry out all the activities of primary health care, implement basic healthcare under the professional management of centers for preventive medicines of the district (8). Currently, besides the public health system, the private health system has been also developing quite strongly since it was legally recognized by the government in 1989 (9).

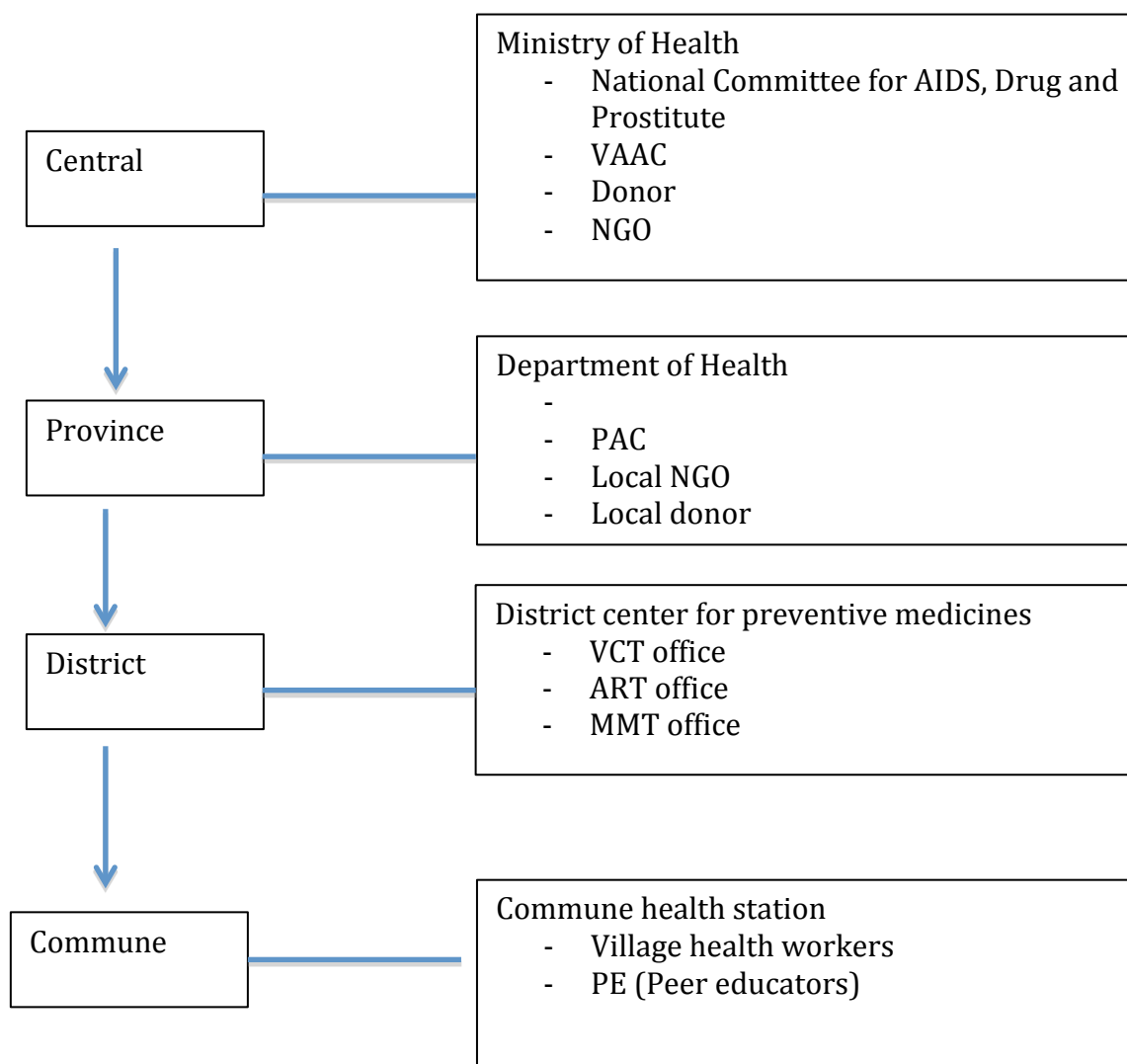
Figure 3: Health System structure in Vietnam



(Source: A health financing review of Vietnam, Tien T Van et. al., 2011)

Model of HIV/AIDS prevention has 3 levels: the national level consisting of VAAC and National HIV/AIDS Control Committee which direct for implementing all professional activities on HIV/AIDS control, finance for the activities and carry out the professional training for lower levels. At the provincial level, all activities are carried out by the province's center for HIV/AIDS prevention and control, carry out the activities and coordinate with agencies and organizations at the provincial level to carry out professional activities. At the district level, the centers for preventive medicines of the districts directly implement intervention activities under the management of the center for HIV/AIDS prevention and control. In addition, the district's centers for preventive medicines also organize recruitment and employment of the workforce of collaborators and peer educators to implement the activities in the community (10).

Figure 4: HIV/AIDS intervention system in Vietnam



(Source: VAAC, 2014)

The financial sources for the health system operation in Vietnam are very diverse including the government funds, fund sponsored by non-governmental organizations and social organizations, health insurance funds and direct costs of medical services. In the field of public health, the operating funds are mainly from the government, donors and health insurance. Meanwhile the private health sector mostly collects costs directly from the health care services (11). The financial source for activities on HIV/AIDS control in Vietnam mainly relies on the funding from foreign organizations and non-governmental organizations (over 80%), however, the reduction of such aid sources in recent years has significantly affected the results of activities on

HIV/AIDS control and it is difficult to maintain the achieved results. Thus, the current urgent requirement is to mobilize new donors for activities on HIV/AIDS control and socialize this task to ensure the sustainability for later activities (12).

1.2.2 Health issues in Vietnam

Currently, according to the 2004 report of the GOPFP, the average life expectancy of Vietnam is 73.2 years (in which the average life expectancy of men is 70.6 years while the average life expectancy of women is 76.0 years), the rate of men is 49.33% and the rate of women is 50.67% (13). According to the 2014 report of JAHR, the current health status of Vietnamese people is significantly improved. The burden of disease due to infectious diseases, maternal health, perinatal children and nutritional disorders is decreased from 45.6% to 20.8% during the period of 1990 - 2010. However, the disease burden caused by non-infectious diseases is increased from 42% to 66%. For the group of infectious diseases, including maternal health problems, perinatal children and nutritional disorders, the most important burden of disease is HIV, tuberculosis, complications of prematurity and nutritional disorder issues. For the burden of non-infectious diseases, the most importance is cancer, cardiovascular disease, behavioral disorder symptoms, injury due to accident in which traffic accidents are the most serious ones (14). The results show that the rate of maternal deaths due to obstetric complications in Vietnam is 1.3/1000, lower than the world's average rate of 4/1000, however, it is much higher than the regions like European (0.24/100) or North America (0.08/1000). (15), while the perinatal mortality rate in Vietnam is about 5.71/1000 (16). The problem of malnutrition of children under 5 years old in Vietnam is still high at 14.5% (17). Regarding infectious diseases and health of mothers, children, and tuberculosis infection is also a health problem to be cared much. Currently, tuberculosis infection rate in Vietnam is more than 40% and ranked as the 12th nation in the world in the number of people infected with tuberculosis, particularly there is 13.2% of people infected with tuberculosis and HIV co-infection. Each year, there are about 200,000 new tuberculosis infections in Vietnam (18). But the most important burden of infectious disease group is infected with HIV at present. According to the report of VAAC, HIV epidemics in Vietnam is in the concentrated period, the rate of new infections tends to be decreased, but it is very slow and HIV

infection is still concentrated mainly in the high-risk groups including: PWID, FSWs and MSM (19), (20). Whereas for non-infectious diseases, cancer and accident including traffic accidents is two of the causes affecting the burden of disease (14). According to the Associate Professor, Mai Trong Khoa, Oncology Department of Bach Mai Hospital, there are about 150,000 cases of cancers, in which 50,000 to 70,000 deaths of cancer yearly nationwide. In addition to there are about 25,000 traffic accidents yearly, killing about 9,000 people, more than 25,000 injured people which actually make the great medical and health burdens for Vietnam (20). In Ha Tinh, the public health issues of priority include tuberculosis, malnutrition and HIV. The remarkable characteristics of HIV epidemics in Ha Tinh include epidemics in concentrated period and new infection rate tending to fall down, however, for the high-risk groups, the rate of FSWs in the group of new HIV infection tends to rise (21). Thereof, it is necessary to carry out the studies to identify and synthesize the causes of HIV among the group of FSWs in Ha Tinh to design programs of effective interventions to reduce the HIV prevalence and its impact on the health of FSWs and the community's health.

II. Chapter 2: Problem statement, Justification, Objectives, and Methodology

2.1 Problem statement

According to the report of the WHO, since the first HIV cases were detected in the US in 1981, the number of new infections has been increased very quickly and HIV epidemics has been turned into the global public health problems. HIV epidemics not only affects each individual health problem but also its impacts directly on all aspects of the economic society, social policy, the burden of disease and other related problems more of countries with infected people. According to the estimation of WHO in 2013 exclusively, there are more than 39 million people with HIV in the world since the appearance of epidemics, in which there are about 35 million people living with HIV and there are about 6,500 new infections across the world every day, including African nations near Sahara where there is the highest HIV prevalence (22) The regions which are significantly affected by the epidemics are African nations near Sahara, Central Asia and some East European nations (23), (24). According to WHO's 2015 report, the rate of new infections is mainly from 3 high-risk groups which include people who inject

drugs (PWID), female sex workers (FSWs) and men who have sex with men (MSM) with the common transmission ways are sharing injection needles, syringes and other injecting instruments, unsafe sex transmission, transmitted by blood transfusion and blood products which are not screened or organ transplants and mother-to-child transmission. In recent years, thanks to the support of WHO and other donors like the World Bank (WB), The Global Fund (GF) and the social organizations, other non-governmental organizations and intervention programs for people infected and HIV infection prevention are carried out very strongly, improving the accessibility of prevention programs for people with HIV, particularly, Anti- Retrovirus Treatment (ART) program has changed the trend and reduced the mortality rate due to immunosuppression for people living with HIV. The evidenced of the rate of new HIV infections fell rapidly every year, from 3.4 million cases in 2001 down to 2.3 million cases worldwide in 2013, in addition to mortality due to AIDS dropping from 2.3 million people in 2005 down to 1.6 million people in 2012 (25). Aiming at reducing the impact of HIV on social life, health as well as preventing the trend of new HIV infections among the group of FSWs increasing compared with other high-risk groups which are the main reasons to carry out a general study " *Related factors of high HIV prevalence and effectiveness of existing intervention programs for controlling HIV transmission on female sex workers in Ha Tinh province, Viet Nam* ". The research results will help improving the efficiency of HIV prevention among the group of FSWs in the coming time.

2.2 Justification

An HIV epidemic among FSWs is mainly from unsafe sex accompanied by high rate of drug use among the group of FSWs (24), (25). Currently, prostitutions are in many countries and in many types of which the majority are still the group of FSWs (26). In Vietnam, according to the report of the Ministry of Labor, War Invalids and Social Affairs (MOLISA), even though prostitution is an illegal activity, prostitution still appears in all localities, including female prostitution ratio in Vietnam accounts for 80%, and this is the group with infection risk behaviors of diseases related to sexual transmission including HIV from unsafe sex (27). According to the evaluation report of WTO, most countries in Asia, including Vietnam, HIV epidemics in prostitution activities significantly effects on the group of FSWs and HIV prevalence is around 3% (25). The studies on the group of FSWs in Ha Tinh

show that the HIV prevalence tends to decline, although the rate of new HIV infections among the group of FSWs is increased compared to the other groups (21). Therefore, the summary of the main causes of HIV among The group of FSWs plays an important role in the development of strategies and effective interventions to reduce new infection rates. Besides, there is a combination of effective reevaluation of intervention programs conducted also shows a general view of the effectiveness and limitations of the programs in order to make timely adjustments to improve efficiency prevention of HIV infection among The group of FSWs in Ha Tinh.

2.3 Research objective

- To determine factors related to HIV infection in female sex workers in Ha Tinh
- The review the effectiveness of intervention programs to reduce HIV prevalence for The group of FSWs in Ha Tinh

2.4 Research methodology

2.4.1 Research design

The implementation of this study is based on the method of narrative literature review

2.4.2 Target population and time setting

The implementation of this study is based on the surveys conducted among the group of FSWs in Ha Tinh. Time for carrying out the study is from May 20th, 2015 to August 30th, 2015.

2.4.3 Search strategy

This study has used the references both in English and Vietnamese, including reports, studies and other documents related announced. Techniques applied to search references include: basing on PubMed, KIT library, Lancet magazine, the research reports of NGOs, WHO and the reports of Vietnam Government, MOH, VAAC, Ha Tinh's Department of Health, Ha Tinh PAC and other websites. The keywords used to search include: "HIV/AIDS, FSWs, risk factor, prevalence, incidence, determinant, vulnerability, barriers, gender, social norms, sex education, social/health insurance, Vietnam, Ha Tinh province, intervention programs, effectiveness, sexually transmitted infections (STIs)".

Selection criteria of references: The reference, reports and researches used on this study selected were published or unpublished, but the data in these references are evidence-base ensure that have been implemented in practice.

These references must analyze general factors related to causes of transmission of HIV among FSWs on the other hand it must show consistency in analysis.

The reference evaluating the effectiveness of HIV intervention programs for FSWs in Ha Tinh are reports, research and realistic assessment on FSW in the recent past, and analyze and summarize the characteristics of the effectiveness and limitations of the program when the actual deployment for FSWs

Table 1: Search strategy

Objectives	Source	Selection criteria
Objective 1	<p>Systematic summary of references on The group of FSWs, and the factors that lead to HIV infection in the world, in Asia, in Vietnam and then make comparisons with the group of FSWs in Ha Tinh. In addition to, the socio-economic data and features involving The group of FSWs are also selected. These documents are based on various sources including libraries and KIT data, PubMed, Google Scholar, Picarta, VU library's references</p> <p>Websites of the domestic organizations (Ministry of Labor, Ministry of Health, Ministry of Education and Training - Ministry of Education, General Statistics Office of Vietnam, NGOs, Family Planning Association of Vietnam) and international organizations (United Nations Development Programme - UNDP, WHO, the International organization for Migration - IOM, the United Nations Population Fund - UNFPA, PLAN international) working in the field of migration and sexual and reproductive health issues.</p>	<p>Criteria to exclude inappropriate references</p> <ul style="list-style-type: none"> - The references refer only to HIV but do not analyze the relationships to infection causes - The references refer to treatment only without analyzing the impacts - The references only analyze The group of FSWs

	<p>Vietnam Journal of Science: Vietnam Journal of Public Health, Journal Medical Practice and other magazines in Vietnam</p> <p>Especially the scientific studies and the reports related to the situation of HIV infection and associated factors in Ha Tinh</p>	
Objective 2	Mainly based on scientific studies and local assessment reports.	

2.5 Conceptual framework: The Social-Ecological Model (SEM)

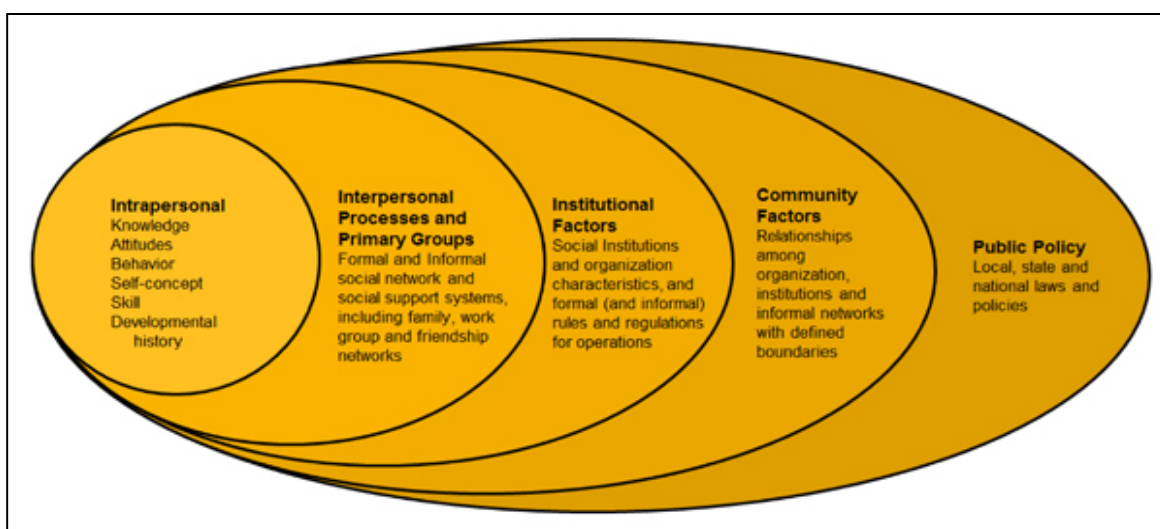
The conceptual framework based on the Social-Ecological Model was made by McLeroy et al 1988. This model analyzes all personal and social factors and affects HIV prevalence among the group of FSWs in an accurate manner and consistent with the research objectives. This model provides and considers the factors on the severity of the behavior and sequences from individual perception to the factors of the social structure and laws and policies related. This conceptual framework has been used to conduct many studies on risk factors related to HIV/STI (28), (29). Or Yorghos' studies on HIV infection risk in Mexico (30) and a number of other studies. SEM provides 5 levels of influence on the factors of HIV infection among female sex workers including from individuals, derived from the relationship between individuals, derived from the organizational structure, the factors of the community and policies (table 1). These factors are related closely to the risky behaviors leading to a high rate of HIV infection among the group of FSWs (Figure 5)

Table 2: The Social-Ecological Model, McLeroy, 1988

Level of factors	Description
Intrapersonal	Knowledge, attitudes, behavior, skill, risk perception, self- efficacy
Interpersonal	Family, friends, peers
Organizational	Rules, promoting behavior, regulation
Community	Community norm/regulation, social network
Public policy	Policies, laws

(*Sources*: An ecological perspective on health promotion programs, McLeroy et. al, 1988)

Figure 5: The Social- Ecological framework

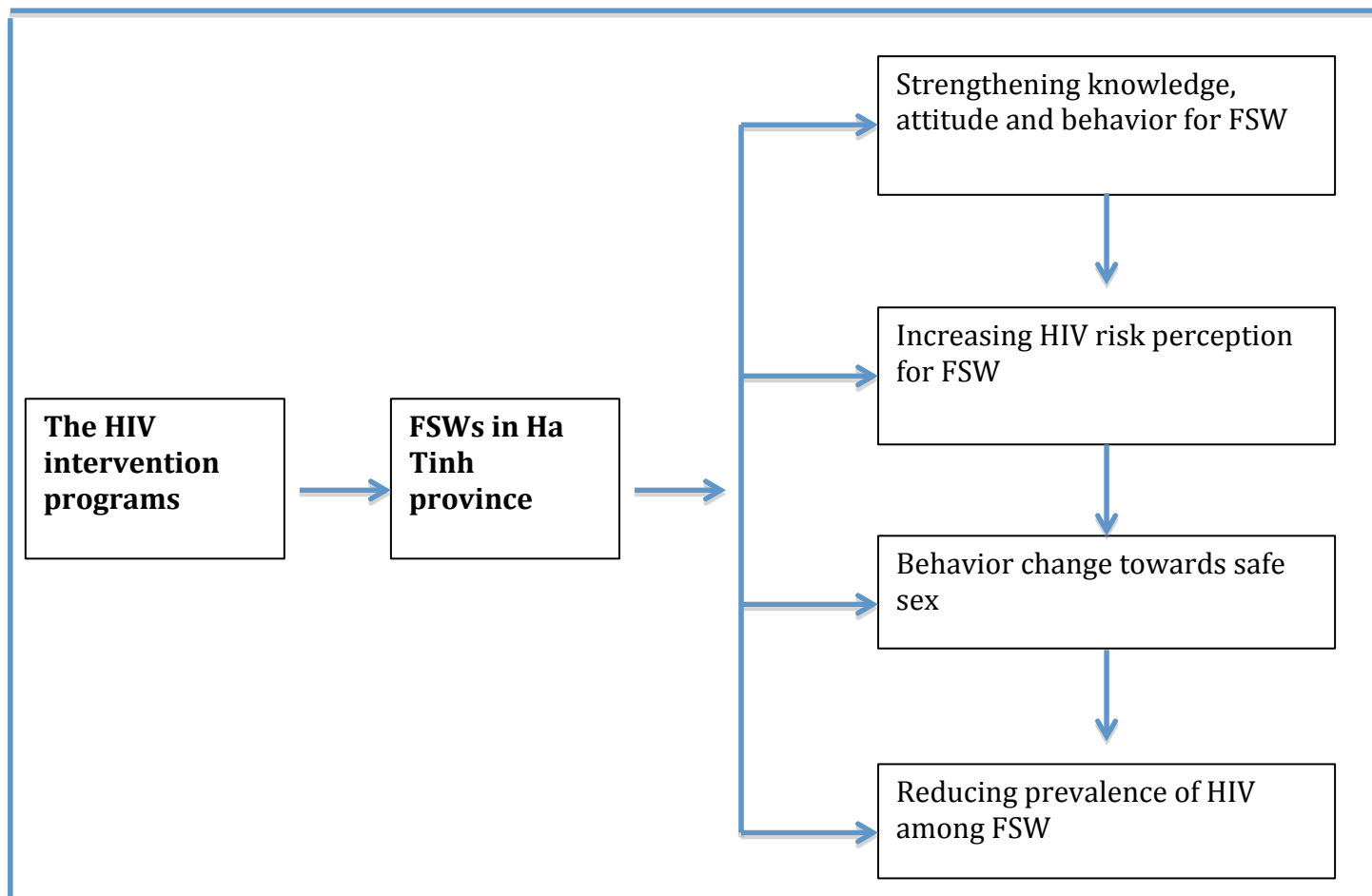


(*Source*: McLeroy KR, Steckler A, Glanz K and Bibeau D, 1988)

The overall process of the effectiveness of intervention programs for HIV infection prevention among the group of FSWs in Ha Tinh based on conceptual framework to assess the effectiveness annually developed by Ha Tinh PAC at the request of PAAC. This conceptual framework helps with a general assessment on the effectiveness of intervention programs for the group of FSWs from enhancing HIV prevention knowledge, aware of the risks of infection, behavioral changes towards safe sex and effectiveness of HIV prevention for FSWs.

The conceptual framework is applied to the reports of effectiveness and summary of annual activities in PAC, in addition to being used in the studies of Dr. Duong Cong Lu for The group of FSWs in Ha Tinh (31), (32), (33).

Figure 6: Conceptual framework to assessment the result of HIV intervention program in Ha Tinh



(Source: PAC Ha Tinh, 2014)

III. Chapter 3: Study findings

3.1 The factors related to transmission of HIV among FSW in Ha Tinh

3.1.1 Intrapersonal factors

3.1.1.1 Knowledges, attitudes and behaviors of FSWs about HIV and HIV transmission

The study findings of M. R. Decker et al conducted among the group of FSWs in Thailand, where prostitution is legalized and strictly managed show that HIV knowledge plays an important role of FSWs to HIV infection. The study findings show that the group of less knowledge of HIV has HIV

prevalence higher than 1.3 times compared with the group of full knowledge of HIV (34). According to sentinel surveillance report along with the study of behaviors in Ha Tinh province from 2010 to 2014, the result shows the difference in HIV prevalence among the group of FSWs with proper knowledge about HIV prevention and the group of FSWs lack of knowledge about HIV prevention. In which the group lacks of knowledge about HIV prevention has odd ratio (OR) higher 2.5 to 3 times compared with other groups (35). Thus, these data show that there is a relationship between knowledge of HIV prevention and HIV prevalence among The group of FSWs in other words, the lack of knowledge about HIV prevention is a cause of a high rate of HIV infection among the group of FSWs.

Table 3: Prevalence of HIV among FSW in Ha Tinh from 2010- 2014

Year	Group lacks of knowledge and information on HIV /AIDS	Group has adequate knowledge and information on HIV /AIDS	FSWs general population
2010	5.20	1.80	3.60
2011	5.20	2.20	3.54
2012	5.00	2.10	4.00
2013	5.20	2.20	3.70
2014	5.60	1.80	3.00

(*Source*: PAC HaTinh, 2014)

In addition to, there are other factors related to the causes of HIV infection, including FSW attitudes before the risks of HIV infection. According to the studies carried out for the group of urban women in China done by Liu. Z, Yan. J et al about HIV infection risk with a great respect to HIV prevalence, there is 40% of HIV infected people from the group with attitudes and behaviors inconsistent with the risks of HIV transmission, meanwhile HIV prevalence of the other groups is under 10% (36). Another study in Phnom Penh, Cambodia done by Przybylski. D et al on The group of FSWs, the result also shows that the group with attitude inconsistent with the risks of HIV infection has higher HIV prevalence by 15% compared to the other groups, thereby showing attitude inconsistent with the risks of HIV infection which is a factor leading to high HIV prevalence among the group of FSWs (37).

In Ha Tinh, according to the study of Dr. Duong Cong Lu, the result also indicates and defines that knowledge, attitudes and behaviors affect on HIV prevalence among the group of FSWs in Ha Tinh. According to the study findings, the group lack of knowledge and showing wrong attitudes has high rate of HIV infection from 2.5 to 3 times (OR) compared with the group with full knowledge, attitudes and behaviors appropriate with risks of HIV infection (32).

3.1.1.2 Risk perception

According to the study of Wu ZI, Zhang J et al, the cause of HIV infection is lack of personal awareness of the risk of infection. The study findings also show that the group lack of awareness about the risk of HIV infection has high rate of HIV infection compared to the group with good awareness about the risk of HIV infection by 16- 25% (38). Another study done in Mozambique also shows that personal awareness of HIV infection risk also plays an important role in HIV infection, HIV prevalence in the group lack of awareness is 46% while the group of good knowledge of risks is only 26% (39).

In Ha Tinh, through the implementation of sentinel surveillance program also shows the attitudes and awareness of infection risk of The group of FSWs in Ha Tinh base on customer's characteristics which is one of risks leading to HIV infection. The result shows that more than 50% of FSWs always think their partners or regular customers with little or no risk. And HIV prevalence of the group lack of awareness of risks is 10-15% higher than other groups (HIV prevalence of the group with good awareness of HIV infection is around 2-3%) (40). The evidences show that aware attitudes about risks also plays an important role in HIV infection of FSWs in Ha Tinh.

3.1.1.3 Condom used

One of the causes recorded on increase of HIV prevalence among the group of FSWs under the study of M.R Decker in Thailand is that safe sex acts involving in the rate of using condoms. The study shows that HIV prevalence in the group without using condoms is higher than 2.83 times (1.48 to 5.39) compared with the group regularly using condoms (33). While the studies in some Asian countries, the different ratio is even higher (41), (42), (43). In Vietnam, the studies also provide evidences to prove this matter. Percentage of The group of FSWs in Ha Tinh using condoms during sex with regular customers and regular partners in the last month is quite low at only

approximately 30%, while the percentage of the group of FSWs using condoms with various customers within the last month is only more than 80% (40). The figure is only higher than Dong Nai; the condom-using rate of the group of FSWs surveyed in Dong Nai is 19% with regular customers and 23.7% with irregular customers. However it is very low compared with other regions such as Danang (with respectively 73.5% to 85.5% and the group familiar strangers) and Nghe An (with 81.4% respectively for regular customers and 91.6% for irregular customers). The groups of FSWs who do not usually use condoms have HIV prevalence higher than groups usually using condoms from 1.5- 2 times (44). IBBS's result and sentinel surveillance among the group of FSWs in Ha Tinh province shows that the OR of HIV prevalence among the group not using condoms high than the group regularly using condoms by 2 times. These results show that skills of using condoms may be associated with HIV prevalence among the group of FSWs.

3.1.1.4 Self- efficacy

According to the study findings of Richard Parker, Peter Aggleton et al, one of the causes of HIV infection that is ineffective in FSW's prevention from HIV infection to enhance the self-prevention indicator of HIV infection for The group of FSWs, it is necessary to enhance the ability to implement measures for safe sex (45), (46). When evaluating this factor and the relationship between these factors and HIV prevalence among The group of FSWs in Ha Tinh, the results show that the group actively preventing HIV infection has HIV prevalence lower than 18-21% compared to the group fails to actively preventing HIV infection (33). The evidence shows that this is also a cause affecting HIV prevalence to The group of FSWs in Ha Tinh.

3.1.2 Interpersonal factors

3.1.2.1 Influence of family factors

The studies conducted by WHO and several other studies also show that when a person is involved in prostitution, she will lose her care, this problem makes The group of FSWs discriminated, and tremendously affects on safe sexual behavior of The group of FSWs led to increased infection risks of diseases transmitted through sex, including HIV; (1), (8), (9). In the countries where the prostitution is legal like Thailand or other countries, the family's discrimination and carelessness is less than 50%, but in other countries where prostitution is illegal and suffers serious discrimination as Nepal, The group of FSWs suffer serious discrimination with approximately 81% (including

50% of FSWs changing unsafe sexual behaviors due to discrimination from family) (47), (48), (49). In Vietnam, according to the report of the MOLISA, prevalence of FSWs shunned and stigmatized by their family is very high and it is about 60% (50). In Ha Tinh, rate of FSWs stigmatized by their family is very high at 70%, OR of the group of FSWs with high-risk behaviors in this group is higher than the group receiving the care of the family by 2-2.5 times (31). Therefore, the support of the family plays an important role in changing unsafe sexual behaviors in safe sexual behaviors to prevent the spread of the epidemics (31). The foregoing evidences show that the family's factors are also causes contributing to behavioral change and increasing the risk of HIV infection to FSWs.

3.1.2.2 Influence of friend factor

In addition to family, friends is the group whom FSWs usually contact and friends also directly impact on their behaviors. According to the report of Parker R and Aggleton, one of the impacts on behavior of the group of FSWs is the attitude of their friends, when they are discriminated, they feel to be isolated and this impacts on their behavior, increases the risk of HIV infection and other sexually transmitted diseases (45). When implementing surveillance programs and studies on behaviors of the group of FSWs in Ha Tinh, the results show that the attitudes and behaviors of friends will impact and change the unsafe sexual behaviors of 43 % of FSWs. Thus, the results of these studies show that the attitudes and behaviors of friends of FSWs also contribute to increased risk behavior or HIV infection or this is a cause contributing to increasing HIV prevalence for FSWs (31), (33).

3.1.2.3 Peer pressure and violence

A risk leading a high prevalence of HIV infection among the group of FSWs is violence and pressure of partners (partner violence). In South India, the percentage of FSWs recognized under pressure and violence from partners is 9.6%, of which 3.7% is recorded under coercion from customers when sex. Especially, risk of HIV infection in the group subjected to coercion from partners is higher than the group not subject to the coercion and violence from partners by 2.7 times (OR). In China, there is 55.5% of FSWs recorded suffering coercion or violence from partners at least one time while having sex and especially the rate of sex workers who do not use condoms when having sex under coercion partner is very high, nearly 20%, the results of the studies also show that this is the cause affecting a high rate of HIV infection

and sexually transmitted infection among the group of FSWs (54), (55). In Ha Tinh, according to the results of sentinel surveillance combined behavior (HSS +) from 2010 to 2014, average percentage of FSWs under pressure from pimps and customers is 20% (38). Although recognizing the risk of HIV infection and sexually transmitted infection is very high when unsafe sex, however, under the coercion of the pimps or customers and especially partners, the rate of using condoms in this group is low, only about 30% (36). Therefore, to limit the spread of HIV and STIs in The group of FSWs, tackling the problem of violence between FSW and her partner is very important, in other words the pressure and violence of partners among the group of FSWs is a factor affecting the high rate of HIV prevalence among the group of FSWs. The issues relating to violence and pressure from partners include partners as PWID, narcotic abuse, gender inequality or financial dependency, etc. (55). Other factors related to pressure and violence in the group of FSWs in Ha Tinh from partners and pimps include reliance on finance (80% is people with low incomes), the rate of partners and customers, PWID is high (over 40%), so it is easy to entice and coerce FSWs to drug use, and the issue of inequality may also affect the lives of FSWs and their sexual behaviors when making prostitution (36).

3.1.3 Organizational factors

3.1.3.1 Social norm

When studying on the participation of the groups of women engaged in HIV infection prevention services in Ghana, one of the barriers for access to the programs, leading to increased risk of HIV infection is the social norms for FSWs, these norms include indigenous culture, gender, socio-cultural environment (53). In addition to studying on this issue in many African countries, this issues also play an important role in accessing HIV infection prevention programs of the groups of general women and particularly The group of FSWs (54), (55), (56). When carrying out the study on analysis and measurement of the impacts of social norms on the access to the intervention programs of the group of FSWs in Ha Tinh leading to increased risk of HIV infection, the results show that more than 70% of FSWs feel they are discriminated by society and they are likely not to be accepted by the society, this is a barrier for FSWs to access to health services and intervention programs. In other words, the social norms are barriers for FSWs from access

to intervention programs, thereby contributing to an increased risk of HIV infection for the group of FSWs (32), (33).

3.1.3.2 Accessibility of health information and services

The reason recognized by WHO related to HIV infection of the group of FSWs is the accessibility of the services for The group of FSWs. Approximately 30% of FSWs cannot access to the intervention programs aimed at reducing the risk of infection, including HIV prevalence in this group is higher than the groups regularly access to health services from 2 to 2.5 times (OR) (1). On the other hand, accessibility of services is not only the use of the services but also helps enhancing the information and knowledge to prevent HIV infection. Therefore, the restrictions on access to services and health information increase the risk of STIs and HIV for the group of FSWs (57). In Ha Tinh, access to services and health information is really difficult. The results of the study carried out show that the rate of knowledge and accessibility to health information services among The group of FSWs is around 70%. So it significantly impacts on their HIV prevalence. The results obtained in Ha Tinh also show that there is close relationship between access to services for HIV prevalence among the group of FSWs, the group of FSWs regularly access services, HIV prevalence is from 1 -1.5% only, while the groups cannot access to these services, HIV prevalence is from 4.5 to 5% (32), (34). Through this evidence, it may determine that access to services and health information is a cause that affects HIV prevalence among the group of FSWs.

3.1.3.3 Affordability of health services

When studying on the causes forming the barriers for FSWs in accessing health services, the affordability of service fees is a factor to be considered. The results of the studies conducted in some Asian countries show that a number of services with high costs have caused significant barriers for FSWs to access to services, thereby leading to increased risk for FSWs. Most of FSWs are low-income, so the costs payable for the services is a burden to them, and only about 2.9% of them can afford these services, while most of them base on the fundings of government and other organizations (58). When studying in Ha Tinh, the results show that about 10% of FSWs can afford to join the services, and the others only hope the funding sources. Therefore, there is a limitation to the use of the group of FSWs when they request or contact with the exposure sources. The foregoing figures show that prices of

services are also a barrier for FSWs to access to services, leading to an increase in the risk of HIV infection and other sexually transmitted diseases. So it is shown that there is a relationship between the prices of services and HIV prevalence among The group of FSWs (33).

3.1.3.4 Acceptability of health services

The results of studies in Kenya and Zimbabwe and WHO show that there is a huge correlation between the acceptability of medical services and the incidences of sexually transmitted infections including HIV among FSWs (59), (60). In Europe, the percentage is the acceptability of medical services such as testing or treatment of infection or exposure to ART of the group of FSWs of about 40%, while in 19 Asian countries with average low-income, this indicator is about 22% (61), (62). When studying in Ha Tinh, the rate of FSWs agree to participate in the health services is also very low, only about 25%, there are many factors affecting this issue including fear of stigma and lack of sympathy from medical staff to FSWs. The evidences show that the consent of FSWs to join health services also affects the risk of HIV infection among the group of FSWs (34).

3.1.3.5 Sufficient resourcing of services

According to the report of UNAIDS, the current resources for HIV control in developing countries are very limited, while the demand is increasing, especially in the services for high risk groups of the epidemics like PWID, The group of FSWs and MSM, while these financing sources can only meet 50% of demand for HIV infection prevention programs, especially in countries of low and average income, it only reaches about 20-30% of the demand (63). In Vietnam, 80% of funding for HIV infection control and mitigation of the impact of HIV on communities is from donors, but the financing source from non-governmental organizations and donors is being reducing, HIV control will have not enough funds for activities, thus meeting the resources for HIV infection prevention services is difficult, this significantly limit the coverage of intervention programs for harm reduction and accessibility of HIV infection prevention services for high-risk groups and general population groups (64). The group of FSWs are the ones who are mostly affected by the lack of sources of service, because many programs have been cut such as distributing condoms for free, testing in the community, or communications support in the community for FSWs, which directly effects on the use process of services and self-protect at risk of HIV infection

and sexually transmitted infection, and this is the cause contributing to a high rate of HIV infection among the group of FSWs in Ha Tinh (34).

3.1.4 Community factors

3.1.4.1 Culture and religious factors

According to the studies carried out in African countries, the factors of gender inequality plays a very important role in HIV infection, group of women has infection rate is higher more than group of men 3 to 4 times (OR) (65). Or in some Asian countries such as India or the general study of global of FSWs also provides similar evidences (66), (67). Another aspect of social norm factor related to HIV prevalence is society and culture and position of religion in the society. Most countries and religions do not accept prostitution as a job. Therefore, The group of FSWs are hard to publicize their status and participate in intervention activities. In Thailand, a country in Asia is much influenced by the Buddhism, although prostitution has been legalized, more than 30% of FSWs are recorded that they are discriminated by the society, and this is a barrier for them to access to HIV prevention services, thereby increasing the risk of HIV infection for FSWs (68). According to the study of P. Gray done in some developing countries, the results show that the position of various religions directly influences on the cause of HIV various prevalence. For example, the odds ratio of HIV infection between the group following Muslim and the group following other religion is 20-30% (69) or there is always an odds ratio of HIV infection between the group following Islam and the group following Muslim (70). Thus, it can be seen that the role of religion significantly influences on society, including the field of health care and protection. One of the main reasons is that it seriously influences on culture and lifestyle in all different religions. For example, those who follow Budish have the culture and lifestyle different from the ones who follow Muslim, etc. It also affects gender equality in accessing health services, especially the prevention of HIV infection among the group of FSWs. According to the study conducted in Mozambique, the results show that men often have priority and take precedence over women (71). Through these evidences, it is shown that the role of social factors such as gender equality, social cultural and social norms significantly impacts on HIV prevalence among The group of FSWs. In Ha Tinh, the rate of participation in one of these religions available in Vietnam is very low, less than 20%, however 80% of the population is influenced by Buddhism (72). This significantly

influences on culture and lifestyle in the local society, although majority of people do not take part in any specific religion, they are mostly influenced by Buddhism. FSWs and people with HIV are not discriminated and harshed so they are difficult to participate in the health services and special services of interventions in HIV infection. Currently, FSWs dare not publicize so they are greatly restricted from access to and participation in programs on HIV, which is a cause of high HIV prevalence among the group of FSWs in Ha Tinh. In other words, the factor of the culture and religion is a cause affecting HIV prevalence among the group of FSWs because this is the big barrier for FSWs accessing health services, leading to an increased risk of HIV infection (32).

3.1.4.2 Stigma and discrimination

The main barrier to access to the health system and health services of FSWs is that the discrimination and stigmatization of family, society and even medical personnel. The results of studies in Thailand and some developing countries in HIV infection among the group of FSWs show that the discrimination is a cause leading to an increase in HIV infection more than 10% (68). According to an assessment of WHO in Africa, the discrimination factor is also a cause of increase in HIV prevalence among The group of FSWs. More than 10% of people with HIV are from discrimination and stigma because they do not dare to approach the intervention programs leading to an increase in the risk of infection (73). In other words, the discrimination and stigma is the factor that increases HIV infection for FSWs. In Vietnam, according to the national strategy report on HIV/AIDS control to 2020 and vision to 2030, it shows that one of the causes of increasing HIV infection is that The group of FSWs do not want to access to HIV infection prevention services related stigma and discrimination of friends, family, society and health staff, according to the record, there is more than 75% of FSWs answer that they feel to be discriminated when they publicize their status (46). Therefore, although the rate of FSWs in society is quite high, the rate of FSWs who publicize their activities is very little and most of them only publicize when they are arrested by police, most of them work as servers in hotels, motels, massage facilities or those who serve tours and especially participate in the disguised, secret line of call-girl. The serious discrimination from the community and society is a barrier for them from passing and accessing to health services or infection intervention services of sexually transmitted diseases including HIV infection prevention. Although through

VAAC, the government and the Ministry of Health deploy many activities of interventions for high-risk groups of HIV including: PWID, FSWs and MSM, However FSWs are less effective because they always evade and dare not approach the programs. Although there are many media channels in order to reduce stigma for FSWs, the influence from the long standing orient culture makes the reduction and elimination of discrimination with FSWs very difficult (20), (46). According to the study of Dr. Duong Cong Lu, the proportion of FSWs in Ha Tinh suffering discrimination, stigma is very high, over 70% (32), (33). So they dare not publicize their status and directly participate in the intervention programs. In particular, health care staff involved in HIV prevention in Ha Tinh always give The group of FSWs unfriendly looks. This makes the rate of FSWs in Ha Tinh participating in the intervention programs on HIV infection and behavioral change is quite low (less than 40%) if compared to other provinces like Hanoi or HCMC (44), (46). The evidences show that the discrimination affects HIV prevalence among The group of FSWs.

3.1.4.3 Social network

According to the studies conducted in Thailand and some other countries on FSWs, one of the causes affecting HIV prevalence is the social structure. This factor directly affects the access and capture of information on HIV prevention for safe sex behavior change in order to prevent the spread of HIV among the group of FSWs (74), (75). In Ha Tinh, the results of HSS+ show that the group of FSWs is illegal and prostitution is prohibited. So the social structure also contributes to limitation of widespread accessibility of HIV prevention services, leading to an increase in the risk of HIV infection for FSWs (33).

3.1.5 Public policies factors

3.1.5.1 The laws systems for FSWs

Currently, the prostitution in the world is divided into two components consisting of legalized (in countries such as Thailand, the Netherlands, etc) and illegal.

There are many laws and policies relating to prostitution in Vietnam, however, there are great limitations and these policies are hard to implement in practice because the activities of prostitution are still illegal, so sex workers dare not openly participate in the programs and policies for fear of arrest, fine or imprisonment. According to the report of the Ministry of Public Security

and the Committee for prevention and drug addiction, prostitution, there are more than 5,000 cases of illegal prostitutions are discovered every year and there are over 10,000 FSWs arrested (76) (77). Although the group of FSWs does not receive the priority policies from the Ministry of Health because this is an unlawful activity, FSWs are limited from participating in intervention programs, leading to an increase in the risk of HIV infection. So the legal system also impacts on the activities and the rights of sex workers and affects the accessibility of services and programs on health issues including HIV infection prevention.

3.1.5.2 The policies and priority programs for FSWs

According to the report of the MOH, VAAC in Vietnam, there are many preferential policies for FSWs, however, the biggest barrier is the issue of the illegality of the group of FSWs. Therefore, the priority programs for FSWs are still hard to implement in fact due to the overlap between the governmental agencies at all levels. This reduces the coverage of intervention programs, the accessibility of FSWs to services, affecting the HIV prevalence for FSWs. In other words, this is a factor contributing to the increase rate of HIV prevalence among the group of FSWs (8), (10).

3.2 The result of HIV intervention programs among FSWs in Ha Tinh

3.2.1 Strengthening knowledge and change attitude and behavior to prevented transmission of HIV

Since the center of HIV/AIDS control and prevention was established in 2007 by Decision No. 1921/QD-UBND of Ha Tinh province, intervention activities for infection prevention have been promoted to control local outbreaks, especially in high-risk groups. The first target which is the most decisive significance in response to the spread of the epidemics that is popularize and increase knowledge about HIV prevention. When thoroughly understanding the characteristics and transmission ways and methods of infection prevention, everyone can know how to protect themselves and the others. Thus, with the support of documents, technical facilities, training and financing from MOH, VAAC, Ha Tinh province and the donors at home and abroad, Ha Tinh PAC have carried out a lot of communications programs to improve knowledge, behavior change of HIV prevention for high-risk groups and the general community. These programs are deployed under the contents and requirements from MOH, VAAC and donors and some of edited content to suit local realities. Since 2007 to present, there are more than 50 classes of

communication and behavior change directly to the group of FSWs, in addition to more than 100 small group communication times by direct channels through peer educators or through the media or in books every year. The program can access to about 80% of FSWs yearly and raises safe sex rate through the years (34), (78). The results show the rate of FSWs can access to a lot of media programs and change their behaviors after the participation is quite high. According to the assessment from the sentinel surveillance reports and the coordination of behaviors done among the group of FSWs, they all say that the programs are more accessible and the coverage is increasing rapidly (21), (31).

Table 4: Results of IEC and BCC programs for the group of FSWs in Ha Tinh group from 2007- 2014

Indicators	2007	2008	2009	2010	2011	2012	2013	2014
Direct communication times	10	25	50	50	60	60	50	40
Communication times other channels	20	30	60	70	90	90	80	60
Percentage of FSWs accessing the programs	65	70	70	80	82	85	85	85
Percentage of FSWs changing the behaviors after the approach	60	66	67	72	77	80	80	80

(**Source:** PAC Hà Tĩnh, 2015)

3.2.2 Increasing awareness of HIV infection risk of FSWs in Ha Tinh
 After the implementation of IEC and BBC programs and improving knowledge for the group of FSWs, the PAC Ha Tinh always carry out the monitoring and assessment times of the effectiveness of these programs in order to make timely adjustments, and the most important contents monitored

including the rate of FSWs who are aware of the risks of the possibility of HIV infection. According to the study's findings of Dr. Duong Cong Lu, the indicator is significantly varied compared to the period before the implementation of communication programs of improving knowledge and change of safe sex behavior. Particularly, the ratio of FSWs who are aware of the risks of HIV infection is increased from 20% to over 80% from 2007 to 2012. Therefore, it can be seen positive results of intervention programs for the group of FSWs in Ha Tinh (32), (33).

3.2.3 Improving practical skills of safe sex measures

The main risk of HIV infection among the group of FSWs is from unsafe sex. Therefore, one of the main contents of the intervention programs of HIV prevention among the group of FSWs is improving the utilization rate of safe sex measures with customers and partners, while the main indicator is the rate of using condoms. The results of the annual monitoring and evaluation program show that the rate of condom use in the group accessing to intervention programs is always higher than in the group not accessing to intervention programs approximately 1.5- 2 times (OR), the rate of using condoms with customers and types of partners has increased after implementation of the intervention programs (79).

Table 5: Percentage of condom use among FSWs in Ha Tinh.

Năm	2008	2009	2010	2011	2012	2013	2014
The FSWs participated in the intervention program	53	58	65	70	80	80	85
The FSWs does not participated in the intervention program	33	36	40	43	48	48	60

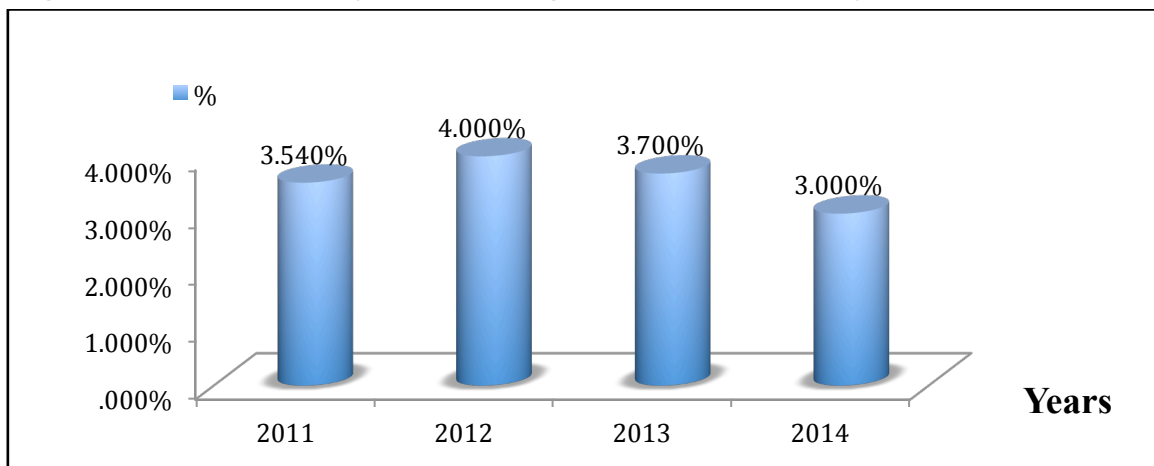
(*Source*: PAC Hà Tĩnh, 2014)

3.2.4 Reduce of HIV prevalence among FSWs in Ha Tinh

A key indicator and the final goal which the intervention program needs to aim at reducing HIV prevalence among the group of FSWs. According to the report of Ha Tinh PAC in the recent years after the implementation of direct

intervention programs to reduce HIV prevalence like free distribution of condoms, free exchange of injection needles and voluntary testing program, HIV prevalence among the group of FSWs in Ha Tinh tends to reduce and the rate of FSWs infected HIV treated with antiretroviral drugs has been increased rapidly in recent years. Although the financial sources for intervention programs from foreign organizations and the government are sharply cut at present, to maintain the efficiency and reduction of HIV prevalence among the group of FSWs, Ha Tinh PAC has recommended PPC to support and help in order to socialize the prevention of HIV infection in the coming years (21), (78).

Figure 7: Prevalence of HIV among FSWs in Ha Tinh from 2011- 2014



(Source: PAC Hà Tĩnh, 2015)

IV. Chapter 4: Discussion

This chapter will discuss the results in turn from the conceptual framework built and give the arguments about these results.

4.1 The factors effected to high prevalence of HIV among FSW

4.1.1 Interpersonal factors

The first factor plays a very important role to a high rate of HIV infection in FSWs themselves. FSWs themselves play an important role in determining the behaviors complying with safe sex measures towards reducing the risk of HIV infection for themselves. The causes are determined concerning themselves increase the risk of HIV infection that their own knowledge of HIV prevention, personal risk awareness, self risk assessment and most importantly implementing measures towards safe sex and always use condoms when having sex. The results show that there are always differences in HIV prevalence when comparing the groups with good knowledge of HIV

prevention, awareness and good judgment of personal risk and always follow these safety measures and the group lacks of knowledge about HIV transmission, does not assess their personal risks own and not implement safety measures. In order to solve this problem, improving knowledge and skills for the group of FSWs to change behavior towards safer sex and reduce the risk of HIV infection as well as other sexually transmitted diseases should be carried out.

4.1.2 Interpersonal factors

The factor affecting to prevalence of HIV among the group of FSWs is the direct cause to themselves and it also plays an extremely important role; it not only changes the behavior and attitudes of FSWs, but also affects thoughts and lifestyles of FSWs. In Vietnam, the prostitution is a special profession and suffers the enormous stigma and discrimination from the community and society, and therefore, the treat attitude of family and friends plays an important role in shaping behaviors and acts of the group of FSWs. When engaging in prostitution, the group of FSWs always suffer serious stigma and discrimination from society and especially if they openly state their status, they will suffer discrimination from their family and friends, this easily leads to change their mentality and they will have bad behaviors which is easy to increase the risk of unsafe sex when they think they are always isolated from the social life. So, to change the way of thinking and behavior, their family and friends shall play an important role in connecting them with the society and help them build confidence as to their behavior to protect themselves and reduce the risk of infection of sexually transmitted diseases, including HIV. Another important feature strongly influences sexual behavior of female sex workers that is fellow sex workers, customers' requirements and pressure from pimps. According to the study results, the role of sex work groups strongly influences on the behavior of FSWs, as usually, the behaviors in a group of the same activity are strongly influenced from each other, thus if the fellows do not use the safety measures when having sex, then the others also have similar behaviors. A significant contributing factor to the behaviors of female sex workers is the requirement from customers and pimps. The customers of FSWs are numerous and diverse, including those who are HIV infected and drug users. Thus when they have sexual relations, their requirements play an almost decisive role to sexual behavior of FSWs. If the customers request FSWs not to use condoms, the pimps force FSWs to

comply with such requirements, FSWs must follow although they knew that such acts would increase the risk of other sexually transmitted diseases including HIV. However, they have no choice. All the most activities of FSWs depend on customers and pimps. Therefore, there must be more effective measures of propaganda for customers to comply with safety measures when buying sex and promote the pimps to protect FSWs under their custody.

4.1.3 Organizational factors

One of the factors closely related to HIV prevalence among the group of FSWs is the accessibility to health services, including HIV prevention programs. The group of FSWs in Vietnam is always considered as those ones who do not adhere to the social norms, thus their accessibility of social services including health services is very difficult. So the coverage of intervention programs plays a very important role in increasing accessibility and use of services, including service rates are also a major barrier for FSWs to access to such programs because most of FSWs have low income. Thus enhancing the coverage and applying policies on the service fees will increase greatly the ability to participate and use the health services, include HIV intervention programs for the group of FSWs.

4.1.4 Community factors

The study results show that factors of culture, religious position and the rules of social norms also play an important role in affecting the lifestyle and behaviors of female sex workers, leading to high rates of HIV infection in this group. Cultural factors and social norms play an important role in recognizing and dealing with FSWs, in Asian countries, the majority of countries have record that FSWs are unacceptable and they suffer serious stigma and discrimination, while in European countries, the outlook will be more open and more receptive to FSWs. Besides, religious factors in society also significantly contribute to recognition of the role of the group of FSWs in the society. Therefore, the implementation of communication programs to change behaviors and reduce the stigma of community plays an important role in the prevention of HIV infection and to strengthen the capacity and opportunity for FSWs to access the programs.

4.1.5 Public policies and laws system

In any society, the rules, laws and policies strongly impact on the lives and other things. With a special profession such as prostitution, it shall be much

governed and influenced by policies and laws, so the activities of external factors such as FSWs themselves, family and society, the legal system and policies may become significant barriers for them to access to health programs and services, or it may become a factor to support them. However, in Vietnam, prostitution is considered to be illegal activity and clearly stated in the formal system of state law, so most activities of FSWs take place secretly and they dare not openly state their status to be able to receive supports from the policies of the government and other social institutions. Therefore, the development and application of the priority policies play a crucial role in improving access to the programs for the group of FSWs. In other words, the programs can be only effective for the group of FSWs if the programs are done accordingly and built in detail to avoid illegality and accessible for FSWs. So, besides the direct factors derived from FSWs, the factors like the legal system, policies and social structure also play a role related prevalence of sexually transmitted diseases including HIV for the group of FSWs.

4.2 The result of HIV intervention for reducing prevalence of HIV among FSWs in Ha Tinh

4.2.1 Strengthening knowledge and change attitude and behavior for FSWs

The effectiveness of intervention programs of HIV prevention for the group of FSWs can be only permanent and sustainable effective if programs are offered a full knowledge of the risk to change FSWs' own behaviors. The communication programs on behavior change for the group of FSWs in Ha Tinh in recent years have given the accessible opportunities for FSWs and increase knowledge about HIV prevention, thereby helping to change safe sexual behaviors, reducing the risk of HIV infection for FSWs. The indicator shows that there is a visible change in effective communications programs that increase knowledge to change behaviors for the group of FSWs, and help to change the trend of safe sex among the group of FSWs and thereby indirectly reduce the incidence of HIV infection among the group of FSWs.

4.2.2 Effectiveness of strengthening awareness of HIV infection risk of FSWs

Aware of the risk of infection for FSWs will help implementing safer sexual behaviors and thereby reducing the risk of HIV infection. Via the evaluation process of the intervention programs for the group of FSWs in Ha Tinh

province implemented since 2007, the results show a big difference. The rate of FSWs, who are aware of the risk of infection is increased rapidly and FSWs can protect themselves against risk STIs and HIV. According to assessments by the monitoring and evaluation program of HIV services including assessments of FSWs who are aware of the risk of infection, it is shown that 80% of FSWs are fully aware of the personal risks, and thereby implementing safety measures when doing prostitution. There is a difference in perception of risks between the groups accessing to intervention programs and those who are not accessible to the programs. Thus, it can be assessed that the intervention programs helped changing perceptions among the group of FSWs in the past years have helped to the group of FSWs change sexual trends and aim to safer sex and much reduce the risks of FSW.

4.2.3 Effectiveness of raising the rate of condom use and practice of safe sex

An indicator assessing the best effectiveness of the intervention programs is the rate of FSWs who use condoms with their customers and partners is increased rapidly. Previously, the rate of using condom and other safe sex measures is very low, about 80% of condom use with all types of their customers and partners. Annually, according to the full statistics from the intervention activities, there are millions of condoms free distributed to FSWs and customers of sex workers, in addition to exchange programs of injection needles and syringes which also help sex workers using drugs to reduce the risk of HIV infection for themselves and their customers and partners when they are using drugs. Therefore, the programs for the group of FSWs in HIV infection are very effective, thereby these programs are required to maintain in the coming years because these programs are much significant for the prevention of HIV infection in Ha Tinh.

4.2.4 Reduce prevalence of HIV among FSW

The last indicator and also the most important in evaluating the effectiveness of the intervention programs is reducing The HIV prevalence among the group of FSWs. According to the results of regular sentinel surveillance conducted in the past years after the implementation of the intervention programs show that the rate of accessibility to programs and health services include the prevention of HIV infection is increasing, the coverage of the programs is more larger and raising the accessibility for FSWs and reducing HIV prevalence among the group of FSWs over the past years. Although HIV

prevalence among the group of FSWs in Ha Tinh is now higher than the average rate nationwide, the trend of new infections is decreasing and it will be more reduced in the coming years.

V. Chapter 5: Conclusions and recommendations

5.1 Conclusion

The results of this study help us sum up the cause of the high rate of HIV infection among the group of FSWs in Ha Tinh. Through the results, it is shown an objective view and evaluation of key factors of HIV infection among the group of FSWs, which may rely on the causes to carry out interventions on per reason for the most effectiveness. On the other hand, this study provides data and evidence to the authorities, community organizations and local leaders about the needs of the group of FSWs, thereby providing financial resources, information for HIV control, to reduce stigma and eliminate the barriers for FSWs to access to intervention programs, improving skills and real cases to practice safe sex for the group of FSWs, especially new groups of FSWs. The evaluation of the factors causing the high rate of HIV infection among the group of FSWs helps taking steps to intervene on per specific factor in the different ways to create better efficiencies. In addition, the implementation of this study program can help HIV prevention program in Ha Tinh to summarize evidences on the strengths and weaknesses when implementing HIV prevention content for the group of FSWs, to understand the expectations of FSWs and thereby applying the most appropriate adjustments for each barrier they are facing, in order to find optimal methods to successfully implement HIV prevention programs among the group of FSWs, thereby reducing the rate of new infections of HIV and the harm of HIV to the group of FSWs in the locality.

The evaluation results of the intervention programs help identifying the strengths and weaknesses of the programs implemented for the group of FSWs in recent years, providing evidences of the positive effects that the programs offer. The obtained results will help health systems and organizations and the leaders in the locality take suitable adjustments for further improvement of the effectiveness of these programs in the near future in order to reduce the incidence and risk of HIV infection and related sexually transmitted diseases among the group of FSWs in the coming time. Especially, it enables the system to perform HIV control to find out the existing barriers when accessing to intervention programs, thereby

implementing adjustments to eliminate these barriers to improve effectiveness of the access to and use of these services in the future.

5.2 Recommendation

1. Vietnam Government should expand the coverage of intervention programs to improve the accessibility and opportunities for the group of FSWs, make adjustments to some of the contents of laws and policies for FSWs to eliminate all legal barriers to join the programs
2. Donors at home and abroad should increase more aids to maintain the activities and effectiveness of HIV prevention programs gained in the recent years
3. The VAAC should follow the studies on trends, major causes of infection and take prompt adjustments for intervention programs to fit the trends.
4. People's Committee of Ha Tinh province should provide the preferential policies for the group of FSWs in the coming time in order to improve the accessibility and use of HIV prevention services
5. Ha Tinh PAC should increase communications to eliminate stigma and discrimination from the group of FSWs, expand the networks of access and provide information and services for the group of FSWs locally.

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