

Rising HIV epidemic among MSM in Viet Nam and associated factors

Pham Tuan Dung
Viet Nam

51st International Course in Health Development
September 22, 2014 – September 11, 2015

KIT (ROYAL TROPICAL INSTITUTE)
Development Policy & Practice/
Vrije Universiteit Amsterdam

Rising HIV epidemic among MSM in Viet Nam and associated factors

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

by

Name participant: Pham Tuan Dung

Country participant: Viet Nam

Declaration:

Where other people's work has been used (either from a printed source, internet or any other source) this has been carefully acknowledged and referenced in accordance with departmental requirements.

The thesis "Rising HIV epidemic among MSM in Viet Nam and associated factors" is my own work.

Signature:

51st International Course in Health Development (ICHHD)
September 22, 2014 – September 11, 2015
KIT (Royal Tropical Institute)/ Vrije Universiteit Amsterdam
Amsterdam, The Netherlands

September 2016

Organised by:

KIT (Royal Tropical Institute) Health Unit
Amsterdam, The Netherlands

In co-operation with:

Vrije Universiteit Amsterdam/ Free University of Amsterdam (VU)
Amsterdam, The Netherlands

Table of contents

List of figures.....	5
Acknowledgement.....	5
Abstract.....	6
List of Abbreviations.....	7
Chapter 1: General information of Viet Nam	8
1.1. Geography	8
1.2. Demography	8
1.3. Administrative structure	9
1.4. Socio-economic situation and investment in healthcare:.....	10
1.5. Health and HIV-related situation	10
1.6. Men who have sex with men in Viet Nam.....	11
1.7. Organisational structure of HIV response.....	13
Chapter 2. Problem statement and justifications, objectives and methodologies	15
2.1. Problem statement and justifications.....	15
2.2. Study objectives.....	16
2.2.1. <i>General objective</i>	16
2.2.2. <i>Specific objectives</i>	16
2.3. Methodology	16
2.3.1. <i>Study design</i>	16
2.3.2. <i>Searching strategy</i>	17
2.3.3. <i>Limitation of the study</i>	17
2.3.4. <i>Conceptual framework</i>	17
Chapter 3. Key research findings.....	20
3.1. The HIV prevalence among MSM in Viet Nam	20
3.2. Individual risk behaviours for the transmission of HIV among MSM	20
3.2.1. <i>Unsafe sexual intercourses</i>	20
3.2.2. <i>Drug injection, drug use and alcohol use</i>	23
3.2.3. <i>Healthcare, social and policy factors</i>	24
Chapter 4. Discussions, conclusions and recommendations.....	29
4.1. Discussions.....	29

4.1.1. Individual risk behaviours:	29
4.1.2. Healthcare factors	31
4.1.3. Social and policy factors	31
4.2. Reflections on the conceptual framework	31
4.3. Conclusions	31
4.4. Recommendations	32
4.4.1. Policy level	32
4.4.2. Service delivery level	32
4.4.3. Areas for further research	33
References	33

List of figures

Figure 1. Map of Viet Nam	9
Figure 2. The HIV/AIDS prevention and control system in Viet Nam (30)	14
Figure 3. The adapted conceptual framework.....	19

Acknowledgement

I might want to express my genuine thankfulness and on account of the Asia Development Bank (ADB) for offering me the grant to assist my training in the Netherlands. My genuine thanks reach out to the administration leading body of the Vietnam Authority of HIV/AIDS Control for giving me a study leave to seek after this project, particularly Dr. Pham Duc Manh (the Deputy Director General of Vietnam Authority of HIV/AIDS Control). My most profound appreciation additionally stretches out to Assoc. Prof Nguyen Thanh Huong (the Vice Dean) and whole employees of HaNoi School of Public Health.

My earnest appreciation goes to the Royal Tropical Institute (KIT) for enlisting me in the ICHD program. My unique because of Dr. Prisca Zwanikken (the course chief), course facilitators and whole employees of Royal Tropical Institute for advices, backing, and sharing learning and encounters all through the course.

I might want to extend my true on account of my counselor, Assoc. Prof Vu Hoang Lan at Ha Noi School of Public Health for specialized backing and advices furthermore for her time that she spent perusing and assessing my proposition. I am extremely appreciative to Dr. Pam Baatsen-my stopping board for her specialized bolster, advices, and commitments made into the written work of this proposition. I express my much obliged, and gratefulness to my family in Viet Nam, who upheld me to finish this expert project. This work is, along these lines, committed to them.

Abstract

Background: Men who have sex with men (MSM) is among of those who are serverely vulnerable to HIV in Viet Nam. They are even at higher risk of acquiring HIV and other infections in a comparison to other key populations including injecting drug users and female sex workers, due to social stigma and discrimination. MSM also face difficulties in accessing healthcare, especially HIV prevention services, and are neglected by the Marriage and Family Law that does not recognise same-sex marriage.

Objective: To identify the factors affecting the transmission of HIV among MSM in Viet Nam, and to offer recommendations that aim at reducing the transmission in this group.

Method: The study is a literature review of published and un-published studies as well as research on HIV among MSM in Viet Nam. Findings from the literature review on the subject are analysed systematically by using the adapted “Risk Environment” framework of Tim Rhodes.

Findings: Unsafe sex, injecting drug, drug and alcohol use are major drivers of the elevated risk of HIV transmission among MSM in Viet Nam. The HIV transmission among MSM is aslo affected by social stigma and discrimination against MSM, by a lack of an enabling environment that engages MSM in the national response to HIV. In addition, the healthcare factor remains a key determinant of the transmission of HIV among MSM. This study also propose recommendations towards an effective response to HIV among MSM in particular and in the wider society in general.

Conclusions and recommendations: Viet Nam experiences a high and a rise in HIV prevalence among MSM. The study proposes some crucial recommendations at policy and service delivery level that address factors influencing the transmission of HIV among MSM.

Key words: HIV, transmission, MSM, Viet Nam.

List of Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
ART	Antiretroviral Therapy
CDC	Centres for Disease Control and Prevention
FSWs	Female sex workers
GDP	Gross Domestic Products
GSO	General Statistics Office of Viet Nam
HCM	Ho Chi Minh City
HIV	Human immunodeficiency virus
HSS	HIV Sentinel Surveillance
HSS+	HIV Sentinel Surveillance Plus
HTC	HIV testing and counselling
IBBS	Integrated Biological and Behavioural Surveillance
IDUs	Injecting drug users
IEC	Information, education and communication
ISEE	Institute for Studies of Society, Economic and Environment
LGBT	Lesbian, gay, bisexual and transgender
MOH	Viet Nam MOH
MOPS	Viet Nam Ministry of Public Security
MOLISA	Viet Nam Ministry of Labor, Invalid and Social Affairs
MSM	Men who have sex with men
MSM/IDU	Men who have sex with men who engaged drug injection
MSW	Male sex workers
MSW MSM	Male sex workers having sex with men
NGOs	Non-governmental organisations
NIHE	National Institute of Hygiene and Epidemiology
OPC	Outpatient clinics
UNAIDS	Joint United Nation Programme on HIV/AIDS
UK	United Kingdom
USA	United States of America
VAAC	Viet Nam Authority of HIV/AIDS Control
WHO	World Health Organisation

Chapter 1: General information of Viet Nam

1.1. Geography

Viet Nam is located in the centre of the Southeast Asia Region, neighbouring the PDR of Laos and Cambodia to the west and China to the North. Covering an area of 331,000 km², Viet Nam has a 3,260-km coastline, a 3,730-km borderline, and an S-shape. The distance between the farthest point in the north and that in the south is 1,650 km (1). Most of the area is covered by deltas and uplands in the North and South of Viet Nam; Viet Nam is divided into two types of delta, the Red River Delta in the North and the Mekong River Delta in the South. In Viet Nam, Ho Chi Minh city (HCM) and Ha Noi are the two biggest cities, in which HCM is the economic capital and Ha Noi is the political one. Though Viet Nam is located in the tropical zone, its climate is divided into two distinct zones. Under the influence of the tropical monsoon climate, the north has four seasons, including spring, summer, fall and winter. The central and the south, however, have only two seasons - rainy and dry seasons, since they are influenced by the tropical Savanna climate.

1.2. Demography

Having a population of 93 million people, Viet Nam ranks 14th among the most populous countries worldwide; males account for 49% while females 51% (2). The majority of local people reside in the rural areas (67%) and the rest live in urban areas, especially big cities (33%) (2,3). Nevertheless, in recent years, the birth rate in Viet Nam has seen a downward trend as a result of government's population and family planning policy (the two-child policy); the birth rate (per 1,000 people) fell from 22% in 2000 to 16% in 2014 (4). Consequently, the population growth rate dropped from 1.5% in 2000 to 1% in 2014 (5) while the share of age over 65 has increased gradually.

Viet Nam is a multi-ethnic country with 54 ethnic groups, in which Kinh is the biggest group, accounting for 85% of the national population (2). Kinh people mainly live in deltas and urban areas while other ethnic groups inhabit the highlands, remote and secluded areas in the northern part of the country. Most local people do not follow any religions that account for 81% while 9.3% and 7.8% follow Buddhism and Christianity, respectively (2). Although a small proportion of the Vietnamese population follows Buddhism, this religion has a great influence on Vietnamese culture.

The literacy in the country rate was very high; as reported by the UNESCO (2009), 93% of the local people were literate, 92% of school-age children attended primary schools, 19% of adults had a medium level of education, but only 5.4% of whom met the UNESCO's standards on high levels of education (6). However, dropout from school, especially in the south and mountainous areas in the north, remains as a particular of concern. Noticeably, this rate in Binh Duong province was found the highest with the rate of 31% (6).

Unemployment remains as a major encounter. It was estimated in 2009 that 1.5 million people were unemployed, in which 41.7% residing in urban areas. Young people in the age of 15-29 accounted for nearly 50% of those who are unemployed while they account for 37.7% of the entire population whose age is greater than 15 years (7).

1.3. Administrative structure

The country's administrative structure is led by the single-party communist system, in which the President of the Socialist Republic of Viet Nam is the head of the State and the Prime Minister is the head of the National Government. There are three administrative levels in the country as presented in the map below (Figure 1) including provinces, districts and communes, with 63 "provincial" governments (5 municipalities and 58 provinces), 662 "districts" (25 provincial cities and 536 districts) and 10,776 "communes" (1,181 wards, 583 commune-level towns and 9,012 communes) (8).



Figure 1. Map of Viet Nam

Source: <http://www.mapsofworld.com/vietnam/vietnam-political-map.html>

The healthcare system consists of three levels: central, provincial and grassroots levels. Higher levels are in charge of directing and supporting lower levels while the latter report activities to the former, so that the former can supervise on-going activities. The system is divided into two sectors: 1) general healthcare (including healthcare settings from the provincial level down to the communal level; these healthcare settings are responsible for ensuring the community's essential health needs and providing basic health services); 2) specialty healthcare (including healthcare settings at the central level, institutes, and institutions in the health system, which are responsible for training and providing human resource for health and specialised medical techniques to serve the community).

1.4. Socio-economic situation and investment in healthcare:

Viet Nam has an open market economy, mostly based on the export of crude oil and foreign investment (9). It ranked 131st worldwide and 27th in the Asia-Pacific region (10). In 2014, the national gross domestic products (GDP) reached 186 billion USD, increasing by 6.68% - the highest growth rate over the past five years (11). The economic structure has been shifting from agriculture to industry. The contributions of agriculture to GDP declined from 20.1% in 2011 to 18% in 2014 while industrial contributions to GDP slightly increased from 37.9% in 2011 to 38.5% in 2014 (12) (13). The export turnover (% of GDP) was recorded to increase, from 79% in 2011 to 86% in 2014 (14).

There has been an increasing investment in healthcare as a result of a rapid and stable economic growth over the past times. Yet, such investment is inadequate compared to the actual need of the society. In 2014, health expenditure stepped up from 6.2% of GDP in 2011 to 7.1% of GDP (15). According to the estimation prepared by World Bank and the ministry of planning and investment, the total investment in health mainly depends on the amount of out of pocket payment, making up 50% of the total (16). Also, about 30% of the population has not accessed health insurance (16). Notwithstanding, in 2014 75% of healthcare expenditure is from out of pocket while the government covers only 25% of the total (15).

1.5. Health and HIV-related situation

Among non-communicable diseases, cardiovascular diseases, diabetes, cancers are serious public health problems, causing a huge burden of disease (17). Mean while, malaria, tuberculosis especially HIV remain major concerns that needs to be given proper attention in order to prevent them from threatening the community's health. In 2014, there were 256,000 people living with HIV nationwide, and HIV prevalence in the community was estimated to be 0.26% (18). The number of new HIV cases has been reported to decline compared to the previous periods, but still remained high (13,000 people in 2013) (18).

HIV epidemic in Viet Nam is still in concentrated stage, with high prevalence found in certain key populations including injecting drug users (IDU), female sex workers (FSW) and

men who have sex with men (MSM) (19). Still drugs injection remains the leading HIV transmission route (20), yet the rate of those infected with HIV via drug injection reduced significantly from 60% in 2006 to 43% in 2013 while the rate of those infected with HIV through sexual transmission rapidly increased from 18% in 2006 to 45% in 2013 (21). This suggests that HIV transmission tend to shift from drug injection to sexual transmission. The HIV prevalence of IDUs peaked at around 30% in 2001-2002, and declined gradually over the years, to 11% in 2013 (21). Similarly, HIV prevalence among FSW also reached a peak of 6% in 2001, and then decreasing to 2.6% in 2013 (21). IDUs' wives and sexual partners, FSW's sexual partners and clients, and MSM's wives and sexual partners, therefore, also faced a higher risk of acquiring HIV. These groups, as estimated, would account for a large proportion of new HIV cases in the coming years (18). Although men still account for a large proportion, the rate of women living with HIV has been reported to sharply increase, from 3.7% in 2000 to 34% in 2013 (21). In addition, HIV infection risk behaviours in these key populations has been reported to be prevalent. Particularly, the double risk behaviours in such groups that contribute to increasing the HIV transmission in Viet Nam include the increase in the rates of FSW injecting drugs, MSM using drugs and male IDUs selling sex to both male and female clients (22).

Multi-person use of injecting equipment and unsafe sex (non-condom use, inconsistent condom use) are the main causes for the escalation of HIV transmission among IDUs while the lack of clean needles and syringes, and fear of being arrested are reasons for multi-person use of equipment (18). Additionally, multi-person use of injecting equipment and unsafe sex are also determinants of the prompt increase of HIV among FSWs (20), and the lack of effective HIV testing and counseling (HTC) system is seen as an important contributor to the spread of HIV among FSWs (20).

1.6. Men who have sex with men in Viet Nam

According to UNAIDS, MSM is the term used to categorise males who engage in sexual activity with other males, regardless of how they identify themselves (23).

Sexual orientation is used to describe a long-term pattern of romantic and/or sexual attraction to persons of the opposite sex or gender, the same sex or gender, or either sexes or more than one gender (24) while gender identity is defined as a personal conception of oneself as a male or female person (25). Sexual identity is a term that describes how one thinks of oneself in terms of to whom one is romantically or sexually attracted, whether that person is of the same, or opposite sex, or both sexes, based on their own experience, feelings and thoughts, but not on the gender or sex of one's sexual partner (24). In terms of sexual orientation, MSM consist of three groups: homosexuals, bisexuals and heterosexuals. Homosexuals are attracted to persons of the same sex or gender. Bisexuals are attracted to either sexes, or more than one gender while heterosexuals are only attracted to persons of the opposite sex.

“Bong kin” is a term used to describe men who are homosexuals, or pretend to be heterosexuals, or male homosexuals who consider themselves as gay people. Some “bong kin” like having a romantic and/or sexual relationship with men who perceive themselves as heterosexuals. Very few of them consider themselves as bisexuals even when all of their sexual partners are males as bisexuality is regarded as a normal phenomenon. “Bong kin” may also have sexual intercourse with females.

“Bong lo” is a term used to describe men who disguise themselves as women by wearing female clothing and making up like women and often work as entertainers or disguised as women in beauty salons. They are inclined to prefer sexual intercourse with men who consider themselves as heterosexuals to sexual intercourse with other MSM.

There has been little information about MSM and the risk of acquiring STIs thru homosexual sex. Although MSM are not seen illegal in Viet Nam as in some countries in Africa, the Middle East and Russia, same-sex intercourse has not been accepted in Viet Nam’s society (26,27). In 2002, it became even worse when central authority’s policy categorised homosexuality, drug injection and sex work altogether under a single term called “social evils” and called for the arrest of those who had same-sex intercourse (28). Furthermore, the HIV epidemic in Viet Nam has exerted negative effects on MSM, as it has fueled social stigma toward MSM due to their association with HIV.

MSM in the country are diverse in their social composition and sexuality. They have various sexual behaviours and include male homosexuals. According to a study conducted by the Institute for Studies of Society, Economics and Environment (ISEE) in 2009, the population of MSM is a miniature society whose members come from different walks of life, including doctors, engineers, businessmen, students or farmers; they live in cities or rural areas, and may or may not belong to a religion (29). In reality, few MSM opened up their statuses due to social stigma and discrimination. MSM who made their sexual orientation public accounted for only 2.5%, compared to 25% of MSM who chose whether to make it public or keep it discreet depending on specific situations, 35% totally concealed it, and 32.5% nearly concealed their sexual orientation (29).

MSM still find it difficult to connect and share information with their community. Recently, the internet has become a useful tool to facilitate their connection. Many forums are now available with the participation of a large number of MSM members. Two examples of such forums are www.taoxanh.net or www.tinhyeutraiviet.com. MSM also connect with their peers via social networks such as facebook, which is also extended to other countries and regions. Currently, there have been some community-based organisations, and civil society organisations that work with MSM in the country. There are also some projects funded by global fund, USAIDS, PEPFAR that have been providing relevant prevention and treatment services to MSM such as sexual health, HIV or anti-stigma, etc.

1.7. Organisational structure of HIV response

Structurally, there are three administrative levels in the structure of HIV response in Viet Nam including central level, provincial level, and district level. The national response to HIV operates under the direction of the National Committee on the Prevention of HIV/AIDS, Drugs and sex work, which is directly under the Government. Three ministries assigned to provide consultation to the Committee include the MOH-MOH (Viet Nam authority of HIV/AIDS control, responsible for HIV prevention), the Ministry of Labour, Invalids and Social Affairs (Department of Social Evils Prevention, responsible for drug detoxification and prostitution prevention), and the Ministry of Public Security (Standing Office for Drug and Crime Prevention, responsible for drug prevention).

Departments of health (DOHs) in 63 cities/provinces take responsibility for managing HIV/AIDS activities in their localities and reporting to the MOH. Under the DOHs, provincial AIDS Centres (PACs) were set up to implement technical activities relating to HIV/AIDS in their localities (voluntary HIV counseling and testing, HIV treatment and Methadone) and report the results of their activities to their corresponding departments of health and the MOH. In addition, PACs are in charge of managing, coordinating and supporting HIV/AIDS activities of provincial and district preventive medicine Centres, and commune health Centres (CHCs). CHCs take responsibility for providing basic information about HIV/AIDS control for local people and referring those in need of HIV services to district/ provincial preventive medicine Centres, and PACs where relevant. Provincial and district health Centres are responsible for providing voluntary HIV counseling and testing services, harm reduction measures, methadone, and ARV for those who are in need.

In addition, outreach programmes that are heavily supported by international funding are available in localities and attract the participation of people who are key populations and those who are living with HIV as outreach workers. Those outreach workers are responsible for approaching key populations such as the IDU, FSW and MSM that are hard to reach in order to provide them with counseling and HIV prevention services (knowledge of HIV/AIDS, distribution of needles and syringes, condoms and lubricants; collection of contaminated injecting equipment, and so on). This program has played a key role in facilitating the access to prevention and treatment programmes of the key populations and people living with HIV, especially in the context of high HIV social stigma. However, peer networks have been shrinking due to the cut off of international funding (there will be no more international support from 2007 onwards).

In general, the national response is summarised in the diagram indicated below.

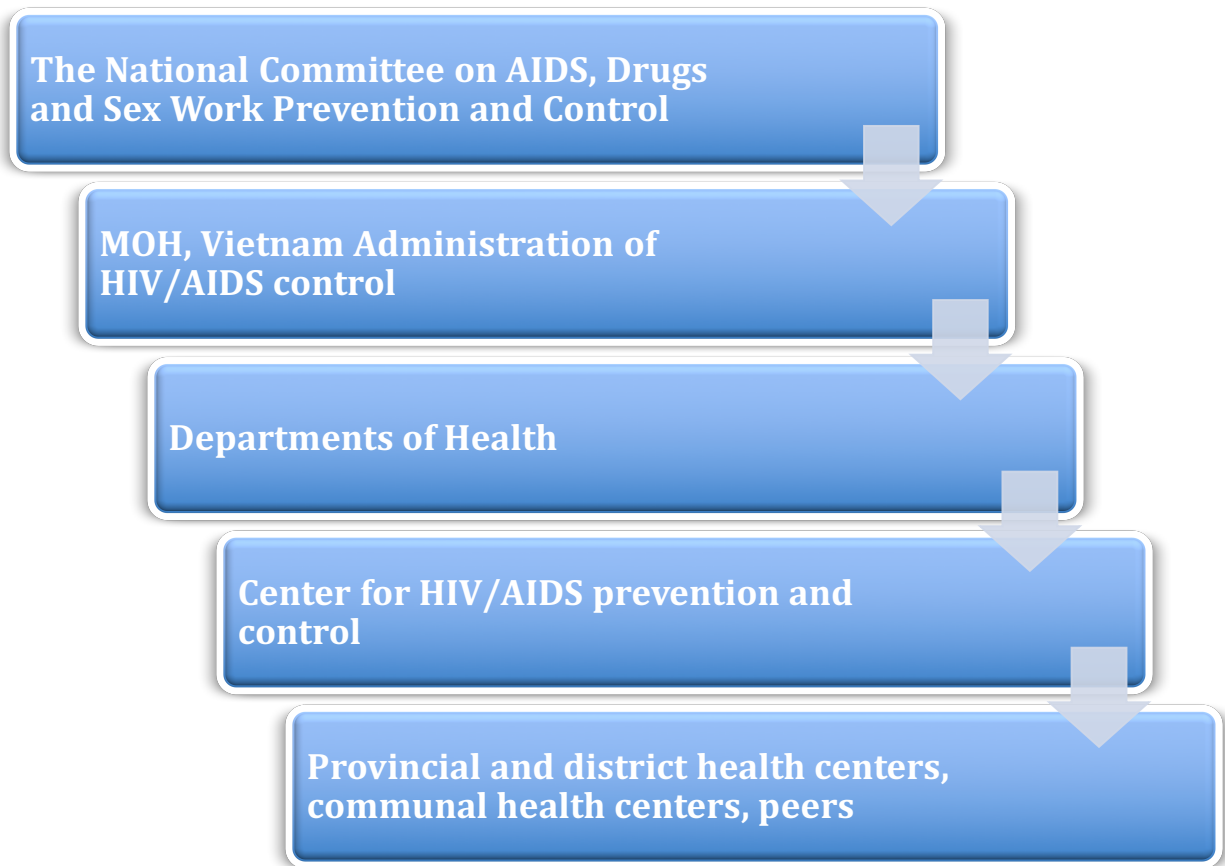


Figure 2. The HIV/AIDS prevention and control system in Viet Nam (30)

Chapter 2. Problem statement and justifications, objectives and methodologies

2.1. Problem statement and justifications

Men who have sex with men exist in every country and culture worldwide (30). However, many MSM do not disclose their sexual orientation and behaviours, as a result of the social stigma and discrimination against them. Consequently, this makes it difficult to estimate the size of MSM population globally. According to the World Health Organisation (WHO), about 3% to 15% of males had sexual intercourse with at least another man, either voluntarily or due to sexual abuse (32). In East Asia, a number of studies estimated about 3% to 5% of men used to have same-sex intercourse at some point in their lifetimes, compared to 6-8% in East Asia and South Asia (33).

Though HIV has detrimental impacts on MSM's health, it has been impossible to measure the exact HIV prevalence in MSM group worldwide. However, results available to date have shown that the HIV prevalence among MSM in some parts of the world has already exceeded that in the general population (34). The estimated HIV prevalence varied from 3% in the Middle East, Southeast and North Africa, to 25% in the Caribbean region (35). Globally, MSM are 19 times more likely to be living with HIV than the wider society (27). Although much effort has been made to reducing the burden of disease due to HIV among MSM, globally HIV prevalence and incidence in this group remain high (36). In many parts of the world, MSM account for a dominating proportion of new HIV cases, in the sense that of about 5-10% of new HIV cases resulted from male same-sex intercourse (37). The HIV prevalence among MSM has been seen escalating in almost all countries worldwide (36). Even in developed countries such as the United State of America (USA), the United Kingdoms (UK), China and in Europe, HIV prevalence in MSM population has been recorded to be on the rise while the prevalence in other key populations there seemed to go down (38)(39)(40–42). Currently, only 103 out of 196 countries reported HIV prevalence among MSM in the prior five years (43), in which, Caribbean and Sub-Saharan regions were found having the highest prevalence (35).

Similar to international findings and trends, the HIV prevalence among MSM in Viet Nam remained high and to be reported as on the rise. As revealed from the results of the Integrated Biological and Behavioural Surveillance (IBBS) that was conducted in 2009 by the National Institute of Hygiene and Epidemiology (NIHE) in four big cities including Ha Noi, Ho Chi Minh (HCM), Hai Phong city (Hai Phong) and Can Tho city (Can Tho), the prevalence among this group exceeded 10%, much higher than the previous rate in 2006 (9.4% in Ha Noi; 5.3% in HCM) (44,45) as well as to the prevalence of 0.29% in the general population. In addition, according to the latest findings of the HIV Sentinel Surveillance (HSS) among key populations that has been undertaken in 40 provinces/cities, the HIV prevalence among MSM increased from 2.3% in 2012 to 6.7% in 2014 (46,47). The country also faced difficulties in estimating the size of MSM population. However, the estimation conducted

in 2007 revealed that the population of MSM (382,000) outnumbered that of IDU (271,000) and that of FSW (72,000) (48). Particularly, 65,000 and 73,000 MSM concentrated in two major cities including Ha Noi and HCM, respectively (49). Especially, IBBS 2006-2009 reported a sharp increase in the HIV prevalence among MSM in these two cities, from 9.4% in 2006 to 20% in 2009 in Ha Noi and from 5.3% in 2006 to 14% in 2009 in HCM (44,45).

In Viet Nam, there is a number of studies, cross-sectional studies, and some HIV/AIDS-oriented surveillances, yet no synthesis of existing evidence on the nature, scale, and factors influencing the transmission of HIV among MSM has hitherto been conducted. This study synthesises the literature on the subject from Viet Nam and other countries, to propose recommendations towards an effective HIV response among MSM in the coming years.

2.2. Study objectives

2.2.1. General objective

To identify the factors affecting the transmission of HIV among MSM in Viet Nam, and to offer recommendations and solutions that aim at reducing the transmission in this group.

2.2.2. Specific objectives

- To analyse the individual risk behaviours influencing HIV transmission among MSM in Viet Nam;
- To explore the associations of healthcare factors, social factors and policy factors with the transmission of HIV among MSM in Viet Nam.
- To propose recommendations and solutions in order to reduce the transmission of HIV among MSM in Viet Nam.

2.3. Methodology

2.3.1. Study design

The study is a literature review of studies and research related to HIV and HIV transmission among MSM and other related issues as well, either published or unpublished. It also includes scientific articles, published and un-published reports of HIV among MSM in Viet Nam. The author also included articles from other countries, since data on HIV, especially factors affecting the transmission of HIV among MSM in Viet Nam is really limited.

Search engines such as Google search and Google Scholar, and archives of biomedical and life sciences journal literature such as PubMed and Mendeley library, were used to look for articles and documents relating to the transmission of HIV among MSM. Other sources of data came from the Government, the General Statistics Office of Viet Nam (GSO), the MOH, UNAIDS, WHO, CDC and other NGOs were also used in this study.

The search was in English and Vietnamese. Key search terms used were: “Viet Nam”-“Việt Nam”, “MSM”-“nam quan hệ tình dục đồng giới nam”, “HIV”-“human immunodeficiency virus”-“vi rút gây ra hội chứng suy giảm miễn dịch mắc phải ở người”, “risk behaviours”-

“hành vi nguy cơ”, “unsafe sex”-“tình dục không an toàn”, “drug use”-“sử dụng ma túy”, “drug injection”-“tiêm chích ma túy”, “injecting drugs”-“tiêm chích ma túy”, “alcohol use”-“sử dụng rượu”, “healthcare factors”-“yếu tố về dịch vụ y tế”, “HIV structure”-“hệ thống phòng, chống HIV/AIDS”, “HIV testing”-“xét nghiệm HIV”, “prevention services”-“dịch vụ dự phòng”, “social factors”-“các yếu tố xã hội”, “stigma”-“kỳ thị”, “discrimination”-“phân biệt đối xử”, “policy factors”-“các yếu tố về chính sách”. Only data available from 2004 onwards were used in order to prevent outdated information.

The search strategy is summarised in the table indicated below.

2.3.2. Searching strategy

Literature	Search engine/database	Search key for Objective 1	Search key for Objective 2
Peer-reviewed published articles	PubMed, Google Scholar, Google, Mendeley literature search	HIV, MSM, Viet Nam, risk behaviours, unsafe sex, drug use, drug injection, injecting drugs, alcohol use	HIV, MSM, Viet Nam, healthcare factors, HIV structure, HIV testing, prevention services, social factors, stigma, discrimination, attitude, policy factors
Grey literature	UNAIDS, WHO, CDC, MOH	HIV, report, Viet Nam	HIV, report, Viet Nam

2.3.3. Limitation of the study

Regarding social factors, the study only focuses on stigma and discrimination against MSM in Viet Nam while other factors such as peer-group pressure, boredom, etc. have not been discussed. Apart from a lack of other social factors, the study also failed to examine the relationship between cultural and structural factors in regard to the transmission.

Moreover, literature review is personally seen as the most appropriate approach to fulfill the research question, due to time constraints and limited resources, especially the difficulties in undertaking research relating to MSM as they are a hard-to-reach population. In addition, the economic factors have been rarely studied; thus, it is not possible for those factors to be analysed in details.

2.3.4. Conceptual framework

The study uses the “risk environment” conceptual framework to describe underlying factors associated with HIV transmission among MSM in Viet Nam (50).

According to the “risk environment” conceptual framework, there are four layers including physical, economic, social and policy factors. In this study, physical factors consist of healthcare factors and economic factors that have been little or not discussed in other studies in Viet Nam. In addition, the free-of-charge condoms, lubricants and injecting equipment have been distributed through the national HIV programmes; therefore,

economic factors in the original framework are to be integrated into individual behavioural risk factors. Furthermore, healthcare services provided to MSMS comprised of availability of HIV prevention services and health workers' stigma towards MSM are seen as a major factor determining the transmission of HIV among MSM. Also, MSM's individual risk factors are of great importance in that they have direct effects on the transmission of HIV among MSM. They consist of unsafe sexual intercourse (anal sex, vaginal sex, oral sex, selling and buying sex), drug injection (injecting drugs), non-drug injection (drug use) and alcohol use.

The original framework is translated into a new framework that consists of four main elements summarising factors influencing the transmission of HIV as follows:

- 1) Healthcare factors, namely the availability of HIV/AIDS prevention and control services and health workers' stigma towards MSM, as the first layer;
- 2) Social factors, namely social stigma and discrimination against MSM, as the second layer;
- 3) Policy factors involving a lack of an enabling environment that engages MSM in the national response to HIV, as the third layer; and
- 4) Individual risk behaviours comprised of unsafe sexual intercourse, selling and buying sex, alcohol and drug use, as the last layer.

These factors are operationalised in the framework below (Figure 3).

CONCEPTUAL FRAMEWORK OF THE STUDY

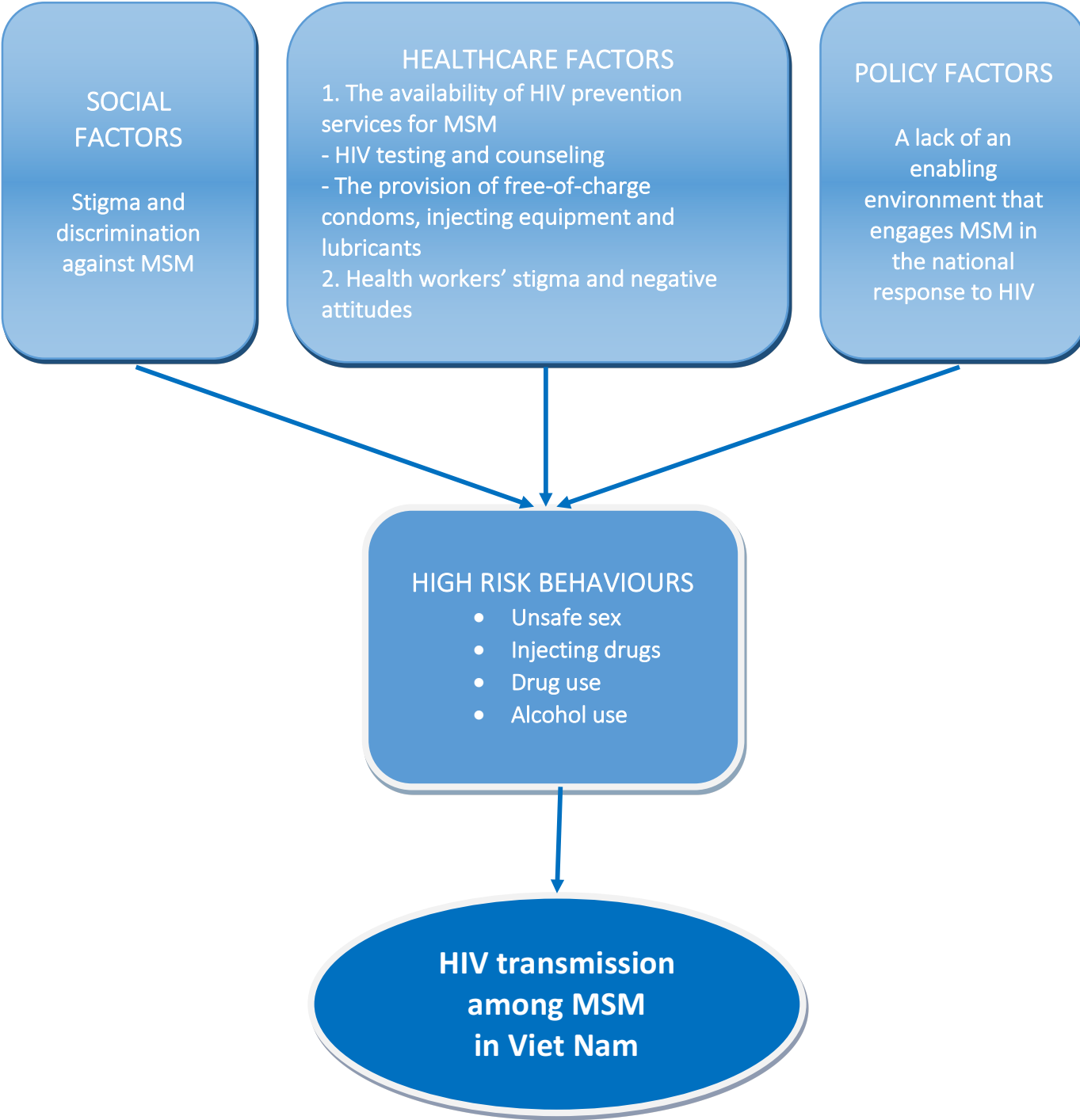


Figure 3. The adapted conceptual framework

Chapter 3. Key research findings

3.1. The HIV prevalence among MSM in Viet Nam

Generally, HIV prevalence among MSM in Viet Nam remains high and to be on the rise. In addition to a sharp rise in the prevalence among MSM from 2.3% in 2012 to 6.7% in 2014 (46,47), it was also discussed in HSS that the prevalence varied from province to province: Can Tho 8.7%; Khanh Hoa 2.7%; An Giang 2.5%; Ha Noi 4.5%; HCM:12.7% (47). Particularly, IBBS 2009 also reported a high HIV prevalence among MSM, exceeding 10%, much higher compared to that in 2006 (9.4% in Ha Noi and 5.3% in HCM) (44,45) and to the prevalence of 0.29% in the general population.

IBBS 2006-2009 reported a dramatic increase in the HIV prevalence among MSM in Ha Noi and HCM, from 9.4% in 2006 to 20% in 2009 in Ha Noi and from 5.3% in 2006 to 14% in HCM in 2009, respectively (44,45). This survey also added that in these two cities the prevalence among male sex workers having sex with men (MSW MSM) and non-MSW MSM in 2009 was much higher than that in 2006. In Ha Noi, HIV prevalence among MSW MSM stood at 14% in 2009 compared to 9% in 2006 while the figure for HCM went up from 9.5% in 2006 to 15.3% in 2009. Meanwhile, the prevalence among non-MSW MSM in Ha Noi in 2009 was 20% as opposed to 11% in 2006, whereas the figure in HCM was 14.3% in 2009, increasing from 6.2% in 2006 (44,45).

3.2. Individual risk behaviours for the transmission of HIV among MSM

3.2.1. *Unsafe sexual intercourses*

3.2.1.1. Unsafe anal sex

It has been reported that the transmission via anal intercourse was 18 time higher than that via vaginal intercourse (51–53). Anal intercourse often found in MSM has led to a high risk of HIV transmission among MSM (54)(18), making the risk of HIV transmission due to unsafe anal sex is higher than that due to unsafe vaginal sex (55).

Studies have revealed a high proportion of MSM reported having sexual intercourse with their male sexual partners within the prior month (44,45). This rate in Ha Noi increased from 64.1% in 2006 to 92.5% in 2009 while it decreased from 99.5% in 2006 to 88.2% in 2009 in HCM. In 2009, Hai Phong saw a rate of 81.8% compared to 65.7% in Can Tho. The proportion of MSM reported having sexual intercourse with at least four male sexual partners within the prior month was relatively high. This rate rose from 13.9% in 2006 to 36.9% in 2009 in Ha Noi while it declined from 32.4% in 2006 to 25.6% in 2009 in HCM, and the rates in Can Tho and Hai Phong were 20.4% and 8.5%, respectively.

In addition, the percentage of MSM in Ha Noi reported having between one and three sexual partners within the prior month increased from 50% in 2006 to 55.4% in 2009 while there was a fall in HMC, from 66.9% in 2006 to 62.6% in 2009. Can Tho recorded a rate of

45.3% as opposed to 66.7% Hai Phong (44,45). Another study conducted in HCM in 2008 showed that 54.3% of MSM reported having anal sexual intercourse with an average of 2.7 male sexual partners within the prior month (56). A recent study undertaken in 2016 by Le Thi My Dung in 2016 also documented that about 70% of MSM said that they had anal sexual intercourse within the prior month, and 85% of MSM living with HIV also reported having anal sexual intercourse within the prior month (57). An internet-based survey in Viet Nam conducted by L. Bentsson in 2014 indicated a rate of 55% of MSM reported having anal sexual intercourse at least once within the prior three months (58).

Research also suggested that non-use of and irregular use of condoms and lubricants while having sex is more likely to increase the risk of HIV transmission while having sex with MSM (54). Results from HSS conducted in 2014 (47) by the MOH showed that 54% of MSM used condoms in their latest anal sex with their male sexual partners while the rate varied among surveyed provinces; the highest rate was found in Can tho (79.3%) while lowest in HCM (37%). The rate of MSM with consistent condom use while having anal sex with their male sexual partners within the prior month significantly decreased from 57.5% in 2013 to 33.1% in 2014, in which, the highest rate was found in Can Tho (54.4%) and lowest in HCM (18.5%) (20,47). Studies also recorded a low rate of MSM reported using condoms while having sex with their regular male sexual partners (30%) and with their non-regular sexual partners within the prior month, at (36.4%)(59). In addition to a low rate of using condoms with regular and non-regular sexual partners, the literature also discovered a downward trend in the use of condoms among MSM. The IBBS undertaken by NIHE showed that the rate of MSM in HCM using condoms with their regular male sexual partners fell from 38% in 2006 to 30% in 2009 (44,45). Some MSM refused to use condoms though they had a good understanding of HIV and HIV prevention. They reasoned that condom use reduced their sexual pleasure (60). All these put MSM at a higher risk of acquiring HIV.

3.2.1.2. Unsafe vaginal sex

Aside from the risk of HIV transmission due to anal sexual intercourse, MSM who had female sexual partners also faced the risk due to vaginal sex. It was reported that high rates of MSM having vaginal sexual intercourse with their female sexual partners within the prior 12 months. The rate in HCM increased from 40% in 2006 to 45.4% in 2009(44,45) whereas it rose considerably from 39.5% in 2006 to 48.6% in 2009 in Ha Noi. The rates in Can Tho and Hai Phong in 2009 stood at 46.3% and 28.5%, correspondingly.

In addition, the rate of MSM reported condom use in their latest sex with female sexual partners within the prior 12 months was less than 50%; the rate in Ha Noi went down from 65.3% in 2006 to 47.4% in 2009 while HCM experienced a rise from 22.5% in 2006 to 41.6% in 2009. The rates in Can Tho and Hai Phong were 41.2% and 43.5%, respectively. The rate of MSM with constant condom use with their female sexual partners was very low, ranging from 27.6% in 2009 in Ha Noi to 23.6% in 2009 in HCM while the rates in Hai Phong and Can Tho were 31.8% and 24.9%, respectively (44,45). In 2003, Colby carried out a study in HCM

and found that nearly 30% of MSM reported engaging in vaginal sex, 56% of whom used condoms during vaginal sex (61). Another study in HCM undertaken a decade later in 2013 showed that 10% of MSM reported having sex with female sexual partners within the prior year (59).

3.2.1.3. Unsafe oral sex

Results from IBBS showed that the rates of MSM having oral sex with their male sexual partners within the prior month were very high. The rate in Ha Noi witnessed an increase from 49.5% in 2006 to 98.7% in 2009 while that in HCM experienced a fall from 93.6% in 2006 to 87.7% in 2009. The rates in Can Tho and Hai Phong were 96% and 82.8%, correspondingly (44,45). Another study also conducted in HCM in 2003 showed that 19% of MSM reported condom use during oral sex in their latest sex (61). In addition, in HCM in 2008, just over 80% of MSM had oral sex with an average of 4.1 male sexual partners within the prior month (56). More attention, therefore, should be given to reduce this risk behaviours as they can significantly contribute to the transmission of HIV and other infections among MSM.

3.2.1.4. Selling sex and buying sex

HSS⁺2013 showed that 18% of MSM reported having sold sex, and HIV prevalence in this group was relatively high with 2.7% of male sex workers (MSWs) living with HIV (20). This survey also indicated a relatively low of MSM reported consistent condom use when having sexual intercourse with their male clients, at 46.04%. Results from IBBS 2009(45) also showed that the rate of MSM selling sex to different male sexual partners in the surveyed provinces varied, ranging from 52.4% in 2009 in HCM to 45.7% in 2009 in Ha Noi while the rates in Can Tho and Hai Phong in 2009 were 28.3% and 6.8%, respectively. In addition to the varied average number of male sexual partners to whom an MSM sold sex within the prior month (3.6 persons in Ha Noi; 2.4 persons in HCM; 1.4 persons in Hai Phong), studies also revealed a low rate of MSM reported consistently using condoms when selling sex to their male clients within the prior month, under 50%. The rate in HCM declined from 50.6% in 2006 to 24.2% in 2009 while an increase from 32.98% in 2006 to 47% in 2009 was seen in Ha Noi. The rates in Can Tho and Hai Phong remained at 45.8% and 20%, correspondingly (44,45).

IBBS 2009 indicated a relatively high rate of MSM having sex with MSW within the prior month. The rate in Ha Noi went up from 5.8% in 2006 to 7.8% in 2009 while HCM saw a fall from 8.6% in 2006 to 4.5% in 2009. Can Tho and Hai Phong experienced the same rate of 3.8% in 2009. Literatures also suggested a rise in the number of MSM reported having sex with at least one MSW within the prior month, increasing from 5.3% in 2006 to 7.3% in 2009 in Ha Noi, from 4.2% in 2006 to 4.5% in 2009 in HCM while Can Tho and Hai Phong shared the same rate of 3.8% in 2009. In contrast to a relatively high proportion of MSM reported using condoms in their latest sex with MSW (82.8% in Ha Noi in 2009, 38.5% in

HCM in 2009, 25% in Can Tho compared to 84.6% in Hai Phong), the rate of MSM with constant condom use with MSW within the prior month was low. The highest rate was found in Ha Noi (58.6% in 2009), followed by Hai Phong (23.1%) and Can Tho (33.3%,) and HCM (15.4%) (44,45). Another study in HCM by D. Colby in 2003 also added that 22% of MSM used to buy sex from males and 5% from females, and 72% never used condom(61).

3.2.2. Drug injection, drug use and alcohol use

3.2.2.1. Drug injection

Locally, drug injection which involves multi-person use of injecting equipment has been identified as one of the high risk behaviours for HIV transmission (18). According to HSS+ 2013, about 3.5% of MSM reported having engaged in drug injection, and HIV prevalence in this group was 6%, higher than prevalence among the general population of MSM (3.7%). Among MSM with drug injection, 4.17% reported sharing injecting equipment, and 85.71% reported using sterile injecting equipment (20). In addition, results from IBBS 2009 reported that the rate of MSM who engaged in drug injection (MSM/IDU) in HCM increased from 3.8% in 2006 to 8% in 2009 while Ha Noi saw a slight drop from 8% in 2006 to 6% in 2009. The rates in Can Tho and Hai Phong in 2009 were 6.3% and 2%, respectively. However, the rate of MSM engaging in multi-person use of injecting equipment in HCM fell from 67.1% in 2006 to 34.4% in 2009 while an increase from 13.16% in 2006 to 20.8% in 2009 was observed in Ha Noi. In Can Tho and Hai Phong, the rates were 48% and 0% (44,45).

3.2.2.2. Drug use and alcohol use

Drug use also increased the risk of unsafe sex among MSM (62). In the period 2006-2009, there has been an intense increase in the number of MSM who reported using illicit drugs in some major provinces/cities in Viet Nam. This rate in Ha Noi rose significantly from 22.8% to 31.8%, and from 21% to 25.3% in HCM (44,63). Moreover, drug use in this group has become more prevalent, and MSM use a range of different drugs. A study on MSM's drug use behaviours in Ha Noi in 2007 showed that MSM used different drugs such as ecstasy, marijuana, amphetamines and cocaine (64). Another study conducted in three cities of Viet Nam by Gary Yu et al. revealed that roughly half of the MSM used one or more drugs (65). They also added that 17% of MSM used drugs while having sex with their male sexual partners compared to 10% with female sexual partners.

In the country, most MSM used alcohol at different levels, and their use of alcohol was associated with HIV transmission while having unsafe sexual intercourse (66–71). It was reflected by IBBS 2006-2009 that the rate of MSM in HCM having sex while on alcohol use dropped from 44.1% in 2006 to 32.8% in 2009 whereas it declined from 44.7% in 2006 to 23.6% in 2009 Ha Noi. Also in this study, the rate of MSM in Ha Noi using condoms while having their latest sex while on alcohol use climbed down from 35.4% in 2006 to 27.7% in 2009. The figure for HCM slightly increased from 27.1% in 2006 to 32.1% in 2009 (44,45). Another study undertaken in HCM by D. Colby in 2003 showed that 66% of MSM reported

alcohol use, 40% of whom drank alcohol before having sexual intercourse (72). In 2015, a study conducted by Gary Yu on MSW in three cities of Viet Nam showed that 98% of MSW MSM reported alcohol use (65). This study also indicated that the rate of MSM consuming alcohol during sexual intercourse that led to unsafe anal intercourse was twice as much as that of those without alcohol use (45% vs 22%). In addition, the rate of MSW with alcohol use while having sex with their sexual partners was relatively high (53% with male sexual partners and 46% with female sexual partners). Internationally, it has been reported by a study in India in 2014 that MSM with frequent consumption of alcohol were less likely to use condoms while having sexual intercourse with their male sexual partners (73). Another study in the USA also pointed out that MSM with excessive use of alcohol faced a higher risk of HIV transmission due to unsafe sexual intercourse (74).

3.2.3. Healthcare, social and policy factors

3.2.3.1. Healthcare factors

3.2.3.1.1. The availability of HIV/AIDS prevention services for MSM

a) HIV testing and counseling

It is crucial to provide MSM with HIV testing. This would help MSM know their HIV status and then plan their treatment and prevent HIV transmission to the community. Over the years, the number of voluntary counseling and testing (VCT) sites in the program on VCT increased from 157 sites in 2005 to 485 sites in 2013 (18). Nevertheless, the uptake of service of MSM still remains low and varied, in which a high rate has been recorded in big cities compared to lower rates in small cities, remote and secluded areas.

However, HIV testing for MSM encounters various barriers, lowering HIV testing uptake in this group (62). It has been reported in IBBS 2006-2009 a low proportion of MSM reported taking HIV tests and receiving test results. This rate increased in Ha Noi from 20% in 2006 to 23.1% in 2009 while decreasing in HCM from 24% in 2006 to 19.3% in 2009. Can Tho had the rate of 19.6% compared to 28.3% in Hai Phong (44,45). According to HSS⁺ 2013, the rate of HIV testing uptake among MSM dropped from 45% in 2012 to 19% in 2013 (20), and the rate was found lowest in Da Nang (2%). Another study in Viet Nam in 2013 by Garcia came up with 76% of MSM reported that they had never voluntarily sought HIV testing (49).

Studies from other countries in the region also reported a low uptake of HIV testing among MSM. A study in Thailand in 2011 found that 50% of MSM had HIV tests done, but only 25% of those MSM returned for HIV test results (75). In Beijing, China, where up to 72% of MSM had never had HIV tests, and 28% of them explained that they were afraid of being stigmatised about their HIV status (76).

b) The provision of free-of-charge condoms, sterile injecting equipment and lubricants

There has been an increase in the number of free-of-charge commodities including condoms, sterile injecting equipment and lubricants distributed to MSM over the past few

years, which has been implemented through the healthcare system and peer network, VCT and outpatient clinics. A great number of injecting equipment was also sold at low prices via the social marketing channel and at drug stores that joined the program. However, the increasing volume of these commodities is still further below the actual needs of MSM. It was reported in IBBS 2006-2009 that the rate of MSM receiving condoms within the prior six months in Ha Noi was 55.4% while the figure for HCM was 46.9%. In addition, it was also reported a low rate of MSM receiving lubricants within the prior six months, 45.5% in Ha Noi and 25.8% in HCM (44,45). Findings from HSS undertaken in 40 provinces in 2012-2013 showed that the rate of MSM receiving free condoms was 52.5% in 2013. In 2012, the rate of 57% was found highest in Kien Giang province compared to the lowest rate of 27% in Khanh Hoa and 30% in Soc Trang. The rate of IDU MSM receiving free-of-charge injecting equipment within the prior six months in 2013 was 42.11% (20,46).

3.2.3.1.2. Health workers' stigma and negative attitudes

Health workers' stigma and negative attitudes toward MSM remained as a huge barrier to their access to necessary health services, especially the critical HIV prevention services (54), in which the most obvious forms of stigma and negative attitudes are criticising anal intercourse, or taunting MSM about their sexual behaviours (77).

An unpublished study by ISEE conducted at healthcare facilities in Ha Noi and HCM explored that health workers' stigma against MSM was expressed through their labelling of MSM based on their unwholesome sexual behaviours or by teasing and expressing their disgusting attitude toward MSM's sexual behaviours (78). This study also explained that it was the social stigma of homosexual intercourse and the lack of knowledge of homosexual intercourse had resulted in health workers' negative attitudes and behaviours towards MSM. In addition, stigma and discrimination against MSM were also presented through the neglect or refuse MSM to seek care when their HIV statuses were known to be positive (79). Another sign of stigma toward MSM is the disclosure of their HIV status to a third party without their consent. Worryingly, a study on stigma in Viet Nam in 2012 showed that about 18% of MSM reported that their HIV statuses were disclosed to their neighbours by health workers (80).

It has been reported by studies that stigma and negative attitudes found in health settings prevented MSM from seeking health care there, and as a result, they might lose opportunities of having access relevant health services (81). It is health workers' stigma and unwelcoming attitudes that make MSM feel insecure and not dare to access healthcare services, thereby hindering their access to HIV intervention programmes and early treatment. Consequently, this elevates the transmission of HIV among MSM.

3.2.3.2. Social factors - social stigma and discrimination toward MSM

Social stigma and discrimination against MSM is another key factor that facilitates the spread of infection and has become challenging to control over the past years (82). It was

indicated in UNAIDS's report on lesbian, gay, bisexual and transgender in 2014 that homosexual people were isolated and therefore suffered prejudice at school and workplace (83). They, thus, were not equipped with skills of identifying genders and sexual orientation. MSM have to face a double social stigma of being MSM and having HIV. They not only have fewer opportunities to access HIV prevention services than other key populations do (54), but also tend not to access healthcare facilities and hesitate to seek for HIV-related services, due to the fear of being stigmatised on their sexual orientation, which is seen as a result of a misconception of homosexuality and incorrect information prevalent in the society about MSM. It is even more challenging in countries where homosexual intercourse is prohibited (85), as a result only 25-54% of MSM had HIV tests done (86).

MSM dared not disclose their HIV status, even to their sexual partners for fear of social stigma. Consequently, HIV is rapidly spread among MSM, which obviously increases the risk of transmitting HIV from MSM to their wives and sexual partners (54). A study on HIV-related stigmatisation in Viet Nam showed that over 30% of MSM reported that their wives or sexual partners did not know about their HIV statuses (80). It was discussed in the study of ISEE that the social stigma against MSM in Viet Nam was a common sight; 95% of surveyed MSM reported that they used to hear other people saying that MSM were not normal. Social stigma against this group forced them to conceal themselves. The risk of HIV transmission, therefore, was elevated. An expert on homosexual issues in Viet Nam said that social stigma and discrimination exerted negative effects on MSM's seeking health care and willing to disclose their sexual behaviours to health workers. As a result, this increases HIV prevalence among MSM (46,47).

MSM in the country also fear of having HIV tests due to social stigma and discrimination. They were afraid of receiving an HIV-positive test result and had a fear of being stigmatised on their HIV statuses (84). It is, therefore, difficult for MSM to access healthcare services, including HIV services. MSM's fear of knowing their HIV status and facing social stigma was a big barrier that discouraged them from uptake of HIV testing (87). When asked why they did not have themselves tested for HIV, MSM reasoned that they were afraid to receive an HIV-positive test result, be told about the consequences of HIV transmission and face the social stigma of HIV transmission. As MSM feared to get an HIV-positive test result, they avoided HIV testing and only had HIV tests done when they were seriously ill and presented signs of opportunistic infections (88). A study in the mountainous area in the north of Viet Nam showed that less than 20% of MSM reported having HIV tests done in the prior 12 months (89). Besides, many MSM explained that they considered themselves "HIV negative" or felt embarrassed when having HIV testing (49). Worryingly, most MSM considered being HIV-positive as a dead sentence and feared to know their HIV test results. Those who received HIV-positive results often became low-spirited and lost hope in life (90). Moreover, social stigma and discrimination also increased the risk of unsafe sex, either direct or indirect, through using alcohol and illicit drugs (91).

International studies also suggested that MSM in other regions also face social stigma and discrimination. According to a study in Chengdu, China, MSM reported that they faced stigma from their family members, from the general population and even from other MSM (92). Furthermore, this study pointed out that stigma among MSM community is the barrier to their seeking healthcare.

3.2.3.3. Policy factors - A lack of an enabling environment that engages MSM in the national response to HIV in the country

Currently, the legal system in the country is still under construction while little attention has been paid to the human rights and health rights of homosexuals. Presently, no solutions are made available for many cases that cannot be legally classified, for example the marriages of homosexual people (83). The current Marriage and Family Law does not legalise the marriage of homosexuals (or same-sex marriage in another word). The law removed the regulation on “prohibiting same-sex marriage” but clearly specifies a regulation on “not recognising same-sex marriage”, which leads to the fact that few homosexuals disclose their homosexual status while the majority of them conceal their homosexual status due to their fear of social stigma. This is dangerous as the hidden sexual relationships would facilitate the transmission of HIV among MSM, in the context where relationships between homosexuals exist and increase over time.

To realise the gap in the law on marriage and family regarding same-sex marriage, the national strategy on prevention of HIV in 2004 categorised MSM into groups that need to be given more attention and supervision. However, this strategy defined no objective of reducing the transmission of HIV transmission in this group (93). In 2005, homosexuality was firstly mentioned in the Directive No. 54-CT/TU issued in 2005 by the Secretariat of the Central Committee of the Communist Party of Viet Nam (94). This document highlighted the need to strengthen information, education and communication (IEC) activities, thereby ultimately making changes in public awareness and responsibility towards key populations (including IDU, FSW and MSM). The communication via the media and the press aimed to elucidate people about homosexuality and HIV transmission routes relating to homosexual intercourse. However, the dissemination of incorrect information about homosexuality intensified homophobia and led to misinterpretation of homosexuals (77). In addition, there had been no concrete intervention programmes intended for MSM in this paper.

Recently, in order to cope up with the rising HIV prevalence among MSM in the country, the Prime Minister approved the revision of the national strategy on the prevention of HIV in 2012, focusing on MSM as the prioritized key population that needs to be given a comprehensive package of interventions (95). Unfortunately, the national guideline on the implementation of harm reduction interventions dedicated to the MSM population has not been developed since then. Consequently, in 2013 around 42.3% of MSM accessed critical HIV prevention services, a fall of 6% compared to the year of 2012 (18), and the prevalence among MSM is still on the rise (20,46). This also partly resulted from the decline in financial

sources invested in HIV programmes as international funding has been phasing out since 2013 while the domestic resources still cannot bridge the funding gaps. In addition, HIV prevention programmes often focus on IDUs or FSW rather than MSM because MSM are not as easily accessible as the other two groups. Aside from being extremely stigmatised and discriminated, MSM are excluded from the national response to HIV in the sense that there have been no specific interventions designed for them.

Numerous evidence from international studies showed that if governments paid insufficient attention to MSM, and MSM were not considered as a priority group in the HIV intervention programmes, HIV/AIDS control programmes would operate inefficiently and encounter barriers to fulfilling their objective of eliminating HIV/AIDS epidemic (96). Chris Beyrer indicated in his study that HIV intervention programmes with MSM needed to be strengthened in order to reduce HIV transmission in this group (97). A study by R. Hays also pointed out that governments' interest and investment in MSM and the effectiveness of engaging and retaining MSM in HIV intervention programmes helped reduce the high HIV transmission through sexual intercourse among them (98).

Chapter 4. Discussions, conclusions and recommendations

4.1. Discussions

This study was undertaken in order to identify and analyse factors that contribute to the transmission of HIV among MSM in Viet Nam. They consist of individual risk factors, healthcare factors, social factors and policy. This section discusses the findings of the review in the order of appearance of factors in chapter 3.

4.1.1. Individual risk behaviours:

As indicated by this study, individual risk behaviours such as unsafe sex and drug injection play a determinant role in HIV transmission among MSM in Viet Nam while the potentially substantial extent of the transmission was suggested by drug use and alcohol use.

4.1.1.1. Unsafe sexual intercourse:

Unsafe anal sex has been shown to be a key predictor for the transmission among MSM in Viet Nam. The transmission via anal sex has been reported to be 18 times higher than that of via vaginal sex (51–53). Anal sex that have been often found in MSM has led to a high risk of HIV transmission among them (54)(18), resulting in a higher risks of acquiring HIV than that of due to unsafe vaginal sex (55). In addition to a high proportion of MSM reported having sex with their male sexual partners within the prior month, many of MSM also reported they had many more sexual partners within the prior month (44,45). The literature also confirmed that non-use of and inconsistent use of condoms and lubricants of MSM while having sex is more likely to increase the risk of HIV transmission (54). *Unsafe anal intercourse, hence, puts MSM at higher risk of transmitting HIV and other infections.*

Unsafe vaginal sex was observed as an important factor that influences the transmission. Aside from the risk of transmitting HIV due to anal sex, MSM who had female sexual partners also faced the transmission via vaginal sex. It was reported high rates of MSM having vaginal sex with their female sexual partners within the prior 12 months (IBBS 2006-2009). In addition to a low rate of MSM reported using condoms in their latest sex with female sexual partners within the prior 12 months (>50%) (IBBS 2006-2009), studies also reported a very low percentage of MSM with constant condom use with their female sexual partners was very low (44,45) (59) (64). *Unsafe vaginal sex, therefore, places MSM at higher risk for contracting HIV and other infections.*

Unsafe oral sex also plays a key determinant to the transmission of HIV among MSM. The rates of MSM having oral sex with their male sexual partners within the prior month has been documented to be very high (IBBS 2006-2009). In addition to a low a rate of MSM reported using condoms during oral sex in their latest sex (61), numerous studies also reported that many of MSM had oral sex (56). *More attention should be paid to reduce this*

risk behaviours as they can significantly contribute to the transmission of HIV and other infections among MSM.

Selling sex and buying sex also bring attention to the transmission of HIV among MSM. The HIV prevalence among MSM who reported having sold sex has been reported to be relatively high, with 2.7% of MSM living with HIV (20). Besides a relatively low rate of MSM reported consistent condom use when having sex with their male clients (20), or a low rate of MSM reported consistent condom use when selling sex to their male clients (45), studies reported a great number of MSM selling sex to different male sexual partners (45). In addition, IBBS 2009 also recorded a relatively high rate of MSM having sex with MSW within the prior month. Literatures also suggested a rise in the number of MSM reported having sex with at least one MSW within the prior month, and a low rate of MSM with consistent condom use with MSW within the prior month (44,45)(61). *More attention should be given to the selling and buying of sex among MSM, as these also put MSM at higher risk of acquiring HIV and other infections.*

4.1.1.2. Drug injection:

Drug injection remains as a major factor for the transmission among MSM. In the country, drug injection has been indicated to be one of the highest risk behaviours for the transmission of HIV, due to multi-person use of injecting equipment (18). It was stated in HSS+ 2013 that about 3.5% of MSM reported having engaged in drug injection and the HIV prevalence among this group was 6%, much higher than the prevalence among general MSM population (3.7%). Multi-person injecting equipment is still prevalent among MSM (20) while the rate of MSM who engaged in drug injection (MSM/IDU) remained relatively high. It even increased in big cities such as in HCM (IBBS 2009). *Drug injection, particularly the multi-person use of injecting equipment, together with their unsafe sexual intercourse, therefore, places MSM at a higher risk of transmitting HIV and other infections.*

4.1.1.3. Drug use and alcohol use:

Drug use suggests that the extent of transmission of HIV among MSM can be potentially substantial, as it may fuel the risk of unsafe sexual intercourse among MSM (62). In addition, drug use among MSM has become more prevalent, and MSM use a range of different drugs (64) (65). Also, an increase in the number of MSM who reported using illicit drugs was observed in big cities (44,63). Riskily, recent studies also documented a relatively high rate of MSM used drugs while having sex with their male sexual partners and female sexual partners (65).

Proper attention should also be paid to alcohol use among MSM. In Viet Nam, most MSM used alcohol at different levels, but their use of alcohol was associated with HIV transmission while having unsafe sexual intercourse (66–71). Having sexual intercourse while on alcohol use has been reported to be still prevalent among MSM (72) (65). There has been a large proportion of MSM had sex while under alcoholic influence, resulting in a

low rate of MSM using condoms when having sex. Apart from still there has been a downward trend in the use of condoms while having sex while on alcohol use among MSM (IBBS 2006-2009), studies also reported a high rate of MSW with alcohol use while having sex with their sexual partners. Alcohol often leads to unsafe sexual intercourse, so the risk of HIV transmission is likely to increase among MSM.

4.1.2. Healthcare factors

This study found that healthcare factors play a critical role in transmitting HIV among MSM. Indirect contributors to the vulnerability of MSM to HIV and other infections involve a shortage of critical HIV prevention services for MSM, including HTC and harm reduction commodities (e.g. condoms, sterile injecting equipment and lubricants), and stigma and negative attitudes from health workers. Particularly, MSM were put at a higher risk of acquiring HIV due to the limited availability of critical HIV prevention services. However, healthcare-related challenges presently encountered by MSM will not be resolved without a major change in the national legal frameworks, i.e. increasing investment in and creating favorable conditions for the provision of MSM-focused critical HIV prevention services. Further studies on these factors are necessary.

4.1.3. Social and policy factors

According to this study, significant associations of social stigma against MSM, the lack of an enabling environment, current policies that does not recognize same-sex marriage with the transmission of HIV among MSM. Particularly, social stigma and discrimination against MSM are also emphasized to resulting in the spread of the infections in this key population. It is evident that consequences of the unavailability of an enabling environment are many. They vary from low investment and poor healthcare to the unavailability of critical HIV prevention services dedicated to MSM, ultimately resulting in the escalated HIV transmission among MSM. To be more precise, without such enabling environment being put into action, no effective response to HIV in general population and among MSM will be realised. Further studies on these factors are necessary.

4.2. Reflections on the conceptual framework

The framework is of great use in terms of exploring most important factors contributing to HIV transmission among MSM in which some adaptations were made. More precisely, physical and economic factors were integrated from the original “risk environment” framework with “healthcare factors”. The latter encompass the availability of MSM-focused HIV/AIDS prevention services, as well as health workers’ stigma and negative attitudes against MSM.

4.3. Conclusions

HIV prevalence, HIV transmission and related factors contributing to the transmission of HIV among MSM in Viet Nam were identified and analysed in this study. Particularly, HIV

prevalence among MSM exceeded that in the wider society. Furthermore, unlike the downward trends of HIV prevalence among IDUs and FSWs, it was on the rise. Clearly, individual risk behaviours for *acquiring* HIV (e.g. unsafe sex, drug injection, especially multi-person use of injecting equipment) have remained the most important contributor to HIV transmission among MSM. Healthcare, social and policy factors play an additional but not less important role in transmitting HIV among MSM.

MSM, their partners/families and the wider society are all affected by the risk of HIV transmission. Therefore, it is of paramount importance to provide a comprehensive package of interventions, especially critical HIV prevention services, for MSM, their partners/families and the wider society.

4.4. Recommendations

To minimize MSM's high risk behaviours for acquiring HIV, this study proposes evidence-informed strategies based on the findings, discussions and conclusions presented above. As proposed at at policy level and service delivery level, these strategies can be easily realized by the MOH and other relevant stakeholders.

4.4.1. Policy level

- It is of urgent need to develop a national guideline on the implementation of harm reduction interventions dedicated to the MSM population.
- HIV response for MSM should be urgently integrated into the National HIV Programme, which would increase investment in healthcare, especially HIV prevention services to MSM.
- MSM should be promptly integrated into the current IBBS that is conducted nationwide so as to estimate the size of MSM population and to better understand the nature and scale of and factors determining the transmission towards a better response to HIV among MSM.
- The national legal framework should legalise same-sex marriage among MSM as soon as possible in order to reduce social stigma and discrimination against MSM.

4.4.2. Service delivery level

- It is necessary to raise MSM's awareness of their risk of acquiring HIV by enhancing targeted IEC programmes.
- A comprehensive package of MSM-focused interventions should be developed and promoted in compliance with both international and national guidelines.
- Health staff should be urgently provided with a sufficient number of proper HIV trainings, especially sensitisation trainings, to minimise stigma and discrimination against MSM.

4.4.3. Areas for further research

- To gain a better insight into the nature and scale of and factors that determe HIV transmission among MSM, it is of dire need to carry out a nationwide study on the current situation of HIV transmission and factors contributing to HIV transmission.
- IBBS should be undertaken in all provinces to collect further data on knowledge, attitude, behaviours and practices, HIV prevalence among MSM; the patterns and nature of risk behaviours for HIV transmission; as well as the perception and attitude towards MSM to form the basis for effective interventions in the upcoming time.
- Healthcare, social, cultural and structural factors influencing HIV transmission among MSM in Viet Nam should be further explored and assessed.

References

1. VN. Vietnam Geography Profile 2014 [Internet]. 2014 [cited 2015 Mar 25]. Available from: http://www.indexmundi.com/vietnam/geography_profile.html
2. Demographics of Vietnam - Wikipedia, the free encyclopedia [Internet]. [cited 2015 Oct 25]. Available from: https://en.wikipedia.org/wiki/Demographics_of_Vietnam
3. Worldometers. Population of Vietnam Worldometers [Internet]. <http://www.worldometers.info/>. 2016 [cited 2015 Oct 24]. Available from: <http://www.worldometers.info/world-population/vietnam-population/>
4. CIA World factbook. Demographic: Birth rate in Vietnam [Internet]. 2015. Available from: <http://www.indexmundi.com/g/g.aspx?c=vm&v=25>
5. CIA World factbook. Vietnam Population growth rate [Internet]. 2015. Available from: <http://www.indexmundi.com/g/g.aspx?v=24&c=vm&l=en>
6. UNFPA. EDUCATION IN VIET NAM : 2009.
7. Investment VM of P and. The 2009 Population and Housing Census. 2009.
8. Hien NN. Socialist Republic of Vietnam, UCLG country profiles. 2007;000. Available from: http://www.cities-localgovernments.org/gold/Upload/country_profile/Vietnam.pdf
9. Tan My. Việt Nam cần giảm phụ thuộc vào xuất khẩu và FDI. 2009; Available from: <http://kinhdoanh.vnexpress.net/tin-tuc/vi-mo/viet-nam-can-giam-phu-thuoc-va-xuat-khau-va-fdi-2699969.html>
10. Score EF. Vietnam economic freedom score. 2015.
11. Tuyen Mai. Đọc báo Đời Sống Pháp Luật - Doc bao Doi Song Phap Luat Online. 2015 Dec 27 [cited 2016 Jun 4]; Available from: <http://www.doisongphapluat.com/kinh->

- doanh/thi-truong/gdp-cua-vn-nam-2015-cao-nhat-trong-5-nam-qua-a126263.html
12. World bank. Agriculture value added % of GDP [Internet]. 2016. Available from: <http://data.worldbank.org/indicator/NV.AGR.TOTL.ZS>
 13. World bank. Industry value added % of GDP [Internet]. 2016. Available from: <http://data.worldbank.org/indicator/NV.IND.TOTL.ZS/countries>
 14. World bank. Export of goods and services [Internet]. 2016. Available from: <http://data.worldbank.org/indicator/NE.EXP.GNFS.ZS/countries>
 15. World bank. Health expenditure [Internet]. 2016. Available from: <http://data.worldbank.org/indicator/SH.XPD.TOTL.ZS/countries>
 16. Melorose J, Perroy R, Careas S. Vietnam 2035. Statewide Agricultural Land Use Baseline 2015. 2015.
 17. WHO. Vietnam: WHO statistical profile [Internet]. 2015 [cited 2015 Oct 30]. Available from: <http://www.who.int/gho/countries/vnm.pdf?ua=1>
 18. VAAC. Vietnam narrative report. Hanoi; 2014.
 19. VAAC. BÁO CÁO Công tác phòng, chống HIV/AIDS đến 30/9/2014. 2014.
 20. VAAC. REPORT ON THE RESULTS OF HIV SENTINEL SURVEILLANCE PLUS AMONG HIGH-RISK GROUPS IN VIET NAM IN 2013. 2013.
 21. Noi H. An annual update on the HIV epidemic in Viet Nam. 2014.
 22. VAAC. Báo cáo công tác phòng chống HIV/AIDS 6 tháng đầu năm 2014, nhiệm vụ trọng tâm 6 tháng cuối năm 2014 và định hướng 2015. 2014.
 23. Oh Y-K, Senter PD, Song S-C. Meeting report: International Symposium on Intelligent Drug Delivery Systems South Korea, 2008. Mol Pharm [Internet]. 2008;5(6):1020–2. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/19434853>
 24. Reiter L. Sexual orientation, sexual identity, and the question of choice. Clin Soc Work J [Internet]. 1989;17(2):138–50. Available from: <http://dx.doi.org/10.1007/BF00756141>
 25. American Psychological Association. Definition of Terms: Sex, Gender, Gender Identity, Sexual Orientation. Am Psychol. 2012;67(1):10–42.
 26. Nguyen QC. Sexual risk behaviours of men who have sex with men in Vietnam. Diss Abstr Int Sect B Sci Eng [Internet]. 2011;71. Available from: <http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2011-99060-524&site=ehost-live>
 27. Europe W, States U, America L, East M, Msm A. Men who have sex with men (MSM) and HIV / AIDS What factors put MSM at risk of HIV ? 2011.

28. CDC News. Vietnam Media Call Homosexuality "Social Evil," Vow Crackdown. CDC National Prevention Information Network [Internet]. 2002; Available from: <http://www.thebody.com/content/art22986.html>
29. ISEE. Basic info about LGBT in Vietnam. 2012.
30. Van N. HIV/AIDS control system in new. J Med. 2015;1–8.
31. UNAIDS. AIDS and Men who have sex with men: 1998. Jt United Nations Program HIV/AIDS [Internet]. 1998;(July):1–8. Available from: https://www.unaids.org/en/media/unaids/contentassets/dataimport/publications/irc-pub03/mentu2000_en.pdf
32. World Health Organisation. Hiv and Young Men Who Have Sex With Men [Internet]. 2015. Available from: http://www.unaids.org/sites/default/files/media_asset/2015_young_men_sex_with_men_en.pdf
33. Baral S, Sifakis F, Cleghorn F, Beyrer C. Elevated risk for HIV infection among men who have sex with men in low- and middle-income countries 2000-2006: a systematic review. PLoS Med [Internet]. 2007;4(12):e339. Available from: <http://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.0040339>
34. Beyrer C, L.Wirtz A, Walker D, Johns B, Sifakis F, Baral SD. The Global HIV Epidemics among Men Who Have Sex with Men [Internet]. 2011. 1-350 p. Available from: <http://siteresources.worldbank.org/INTHIVAIDS/Resources/375798-1103037153392/MSMReport.pdf>
35. Beyrer C, Baral SD, Van Griensven F, Goodreau SM, Chariyalertsak S, Wirtz AL, et al. Global epidemiology of HIV infection in men who have sex with men. Lancet [Internet]. Elsevier Ltd; 2012;380(9839):367–77. Available from: [http://dx.doi.org/10.1016/S0140-6736\(12\)60821-6](http://dx.doi.org/10.1016/S0140-6736(12)60821-6)
36. Beyrer C, Baral SD, Walker D, Wirtz AL, Johns B, Sifakis F. The expanding epidemics of HIV type 1 among men who have sex with men in low-and middle-income countries: Diversity and consistency. Epidemiol Rev [Internet]. 2010;32(1):137–51. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/20573756>
37. Men I, Greater FOR, In P. I CARE DO YOU ? : WORLD AIDS CAMPAIGN INVOLVING MEN FOR GREATER PARTICIPATION IN CARE AND SUPPORT , CONTROL , AND PREVENTION OF HIV / AIDS. 2001.
38. Bozicevic I, Begovac J. The emerging HIV epidemic among men who have sex with men in southeastern Europe. Expert Rev Anti Infect Ther [Internet]. 2010;8(12):1351–8. Available from: <http://www.scopus.com/inward/record.url?eid=2-s2.0-78650211748&partnerID=tZ0tx3y1>

39. Centres for Disease Control and Prevention. Morbidity and Mortality Weekly Report National Gay Men's HIV/AIDS Prevalence and Awareness of HIV Infection Among Men Who Have Sex With Men — 21 Cities, United States, 2008. *Morb Mortal Wkly Rep.* 2010;59(37):1201–7.
40. Zhang BC, Chu QS. MSM and HIV / AIDS in China. 2010;15:858–64.
41. Punyacharoensin N, Edmunds WJ, De Angelis D, Delpech V, Hart G, Elford J, et al. Modelling the HIV epidemic among MSM in the United Kingdom. *AIDS.* 2015;29:339–49.
42. Zigrovic L, Voncina L, Bozicevic I, Munz M, Lazarus J V. The HIV Epidemic Among Men Who Have Sex with Men in Central and Eastern Europe. *J LGBT Health Res [Internet].* 2009;5(1-2):33–50. Available from: <http://www.scopus.com/inward/record.url?eid=2-s2.0-77949542670&partnerID=tZOtx3y1>
43. Wirtz AL. The global HIV epidemics among men who have sex with men. World Bank Publications; 2011.
44. NIHE. Results from the HIV / STI Integrated Biological and Behavioural Surveillance (IBBS) in Vietnam. CDC. 2006.
45. NIHE. Results from the HIV / STI Integrated Biological and Behavioural Surveillance (IBBS) in Vietnam. 2009.
46. VAAC. REPORT ON THE RESULTS OF HIV SENTINEL SURVEILLANCE PLUS AMONG HIGH-RISK GROUPS IN VIET NAM. 2012.
47. VAAC. REPORT ON THE RESULTS OF HIV SENTINEL SURVEILLANCE AMONG HIGH-RISK GROUPS IN VIET NAM. 2014.
48. Vaac. HIV/AIDS TẠI VIỆT NAM ƯỚC TÍNH VÀ DỰ BÁO. 2013.
49. García MC, Duong Q Le, Mercer LE, Meyer SB, Ward PR. “Never testing for HIV” among Men who have Sex with Men in Viet Nam: results from an internet-based cross-sectional survey. *BMC Public Health [Internet].* 2013;13:1236. Available from: <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3877867&tool=pmcentrez&rendertype=abstract>
50. Rhodes T, Simic M. Transition and the HIV risk environment. *BMJ Br Med J.* 2005;331(7510):220–3.
51. Baggaley RF, White RG, Boily MC. HIV transmission risk through anal intercourse: Systematic review, meta-analysis and implications for HIV prevention. *Int J Epidemiol.* 2010;39(4):1048–63.
52. Hill C, Jain A, Takemoto H, Silver MD, Nagesh SVS, Ionita CN, et al. Heterosexual risk

- of HIV-1 infection per sexual act: a systematic review and meta-analysis of observational studies. *Lancet Infect Dis* [Internet]. 2009;73(4):389–400. Available from: <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=4749027&tool=pmcentrez&rendertype=abstract>
53. Jin F, Jansson J, Law M, Prestage GP, Zablotska I, Imrie CG, et al. NIH Public Access. 2011;24(6):907–13.
 54. Studies I for SD. Understanding and Reducing Stigma Related to Men Who Have Sex with Men and HIV Toolkit for Action. 2010.
 55. CDC. HIV Transmission | HIV Basics | HIV/AIDS | CDC [Internet]. 2015. 2015 [cited 2015 Oct 31]. Available from: <http://www.cdc.gov/hiv/basics/transmission.html>
 56. Nguyen TA, Nguyen HT, Le GT, Detels R. Prevalence and risk factors associated with HIV infection among men having sex with men in Ho Chi Minh City, Vietnam. *AIDS Behav*. 2008;12:476–82.
 57. Le TMD, Lee PC, Stewart DE, Long TN, Quoc CN. What are the risk factors for HIV in men who have sex with men in Ho Chi Minh City, Vietnam?- A cross-sectional study. *BMC Public Health* [Internet]. *BMC Public Health*; 2016;16(1):406. Available from: <http://bmcpublikealth.biomedcentral.com/articles/10.1186/s12889-016-3088-8>
 58. Bengtsson L, Lu X, Liljeros F, Thanh HH, Thorson A. Strong propensity for HIV transmission among men who have sex with men in Vietnam: behavioural data and sexual network modelling. *BMJ Open* [Internet]. 2014;4(1):e003526. Available from: <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3902196&tool=pmcentrez&rendertype=abstract>
 59. Justumus P, Colby D, Mai Doan Anh T, Balestre E, Becquet R, Orne-Gliemann J. Willingness to use the Internet to seek information on HIV prevention and care among men who have sex with men in Ho Chi Minh City, Vietnam. *PLoS One* [Internet]. 2013;8(8):e71471. Available from: <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3747213&tool=pmcentrez&rendertype=abstract>
 60. Ngo DA. Practices among young men who have sex with men in Vietnam: Implications for HIV prevention. *Aids Educ* [Internet]. 2009;21(3):251–65. Available from: <http://www.scopus.com/inward/record.url?eid=2-s2.0-84884353851&partnerID=tZOtx3y1>
<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3902196&tool=pmcentrez&rendertype=abstract>
<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3479935&tool>
 61. Colby DJ. HIV knowledge and risk factors among men who have sex with men in Ho Chi Minh City, Vietnam. *J Acquir Immune Defic Syndr* [Internet]. 2003;32(1):80–5.

Available from: <http://www.scopus.com/inward/record.url?eid=2-s2.0-0037233906&partnerID=40&md5=dc3b50bdd13c54d7904e75d39a3d5eb4>

62. International HIV/AIDS Alliance. *Between Men: HIV/STI prevention for men who have sex with men*. 2003.
63. National Institute of Hygiene and Epidemiology and Family Health International. *Results from the HIV / STI Integrated Biological and Behavioural Surveillance (IBBS) in Vietnam*. 2009.
64. Clatts MC. Male sex work and HIV risk among young heroin users in Hanoi, Vietnam. *Sex*. 2007;4(4):261–7.
65. Yu G. Substance Use among Male Sex Workers in Vietnam: Prevalence, Onset, and Interactions with Sexual Risk. *Int J Drug Policy*. 2015;26(5):516–21.
66. Bruce D, Kahana S, Harper GW, Fernández MI, the ATN. Alcohol use predicts sexual risk behaviour with HIV-negative or partners of unknown status among young HIV-positive men who have sex with men. *AIDS Care*. 2012;25(5):1–7.
67. Newcomb ME, Clerkin EM, Mustanski B. Sensation seeking moderates the effects of alcohol and drug use prior to sex on sexual risk in young men who have sex with men. *AIDS Behav*. Springer; 2011;15(3):565–75.
68. Reisner SL, Mimiaga MJ, Bland S, Skeer M, Cranston K, Isenberg D, et al. Problematic alcohol use and HIV risk among Black men who have sex with men in Massachusetts. *AIDS Care*. Taylor & Francis; 2010;22(5):577–87.
69. Bruce D, Kahana S, Harper GW, Fernández MI, ATN the. Alcohol use predicts sexual risk behaviour with HIV-negative or partners of unknown status among young HIV-positive men who have sex with men. *AIDS Care*. Taylor & Francis; 2013;25(5):559–65.
70. Folch C, Esteve A, Zaragoza K, Muñoz R, Casabona J. Correlates of intensive alcohol and drug use in men who have sex with men in Catalonia, Spain. *Eur J Public Health*. Oxford Univ Press; 2009;ckp091.
71. Woolf SE, Maisto S a. Alcohol use and risk of HIV infection among men who have sex with men. *AIDS Behav* [Internet]. 2009;13(4):757–82. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/18236149>
72. Colby DJ. HIV knowledge and risk factors among men who have sex with men in Ho Chi Minh City, Vietnam. *J Acquir Immune Defic Syndr*. 2003;32(4):80–5.
73. Yadav D, Chakrapani V, Goswami P, Ramanathan S, Ramakrishnan L, George B, et al. Association between alcohol use and HIV-related sexual risk behaviours among men who have sex with men (MSM): Findings from a multi-site bio-behavioural survey in India. *AIDS Behav*. 2014;18(7):1330–8.

74. Kahler CW. Daily Associations between Alcohol Use and Unprotected Anal Sex Among Heavy Drinking HIV-Positive Men Who Have Sex with Men. *AIDS Behav.* 2015;44(2):421–8.
75. Wimonasate W, Naorat S, Varangrat A, Phanuphak P, Kanggarnrua K, McNicholl J, et al. Factors associated with HIV testing history and returning for HIV test results among men who have sex with men in Thailand. *AIDS Behav.* 2011;15(4):693–701.
76. Song Y, Li X, Zhang L, Fang X, Lin X, Liu Y, et al. HIV-testing behaviour among young migrant men who have sex with men (MSM) in Beijing, China. *AIDS Care [Internet].* 2011;23(2):179–86. Available from: <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3076143&tool=pmcentrez&rendertype=abstract>
77. Tâm NTM. Quyền của người đồng tính: lý luận và thực. 2013.
78. Tran Thanh N et al. KỶ THỊ VÀ PHÂN BIỆT ĐỐI XỬ CỦA NHÂN VIÊN Y TẾ QUA CUNG CẤP DỊCH VỤ Y TẾ CHO NAM QUAN HỆ TÌNH DỤC ĐỒNG GIỚI. Unpublished. 2011;1–32.
79. Thanh DC, Moland KM, Fylkesnes K. Persisting stigma reduces the utilisation of HIV-related care and support services in Viet Nam. *BMC Health Serv Res [Internet]. BMC Health Services Research;* 2012;12(1):428. Available from: <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3549738&tool=pmcentrez&rendertype=abstract>
80. Stigma index. *Bioorganic Chemistry.* 2012.
81. Kennedy CE, Baral SD, Fielding-Miller R, Adams D, Dlodlu P, Sithole B, et al. “They are human beings, they are Swazi”: intersecting stigmas and the positive health, dignity and prevention needs of HIV-positive men who have sex with men in Swaziland. *J Int AIDS Soc.* 2013;16 Suppl 3(Suppl 3):1–7.
82. Reynolds R. Social Discrimination Against Men Who Have Sex With Men (MSM) Implications for HIV Policy and Programmes. *Glob Forum MSM HIV [Internet].* 2010; Available from: http://www.msmsgf.org/files/msmsgf/Advocacy/MSMGF_Social_Discrimination_Policy_Brief.pdf
83. USAID. SONG TÍNH VÀ CHUYỂN GIỚI BÁO CÁO QUỐC GIA VIỆT NAM. 2014.
84. Mimiaga MJ, Reisner SL, Closson EF, Perry N, Perkovich B, Nguyen T, et al. Self-perceived HIV risk and the use of risk reduction strategies among men who engage in transactional sex with other men in Ho Chi Minh City, Vietnam. *AIDS Care [Internet].* 2012;25(January 2015):1039–44. Available from: <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3700653&tool=pmcentrez&rendertype=abstract>

85. Itaborahy LP, Zhu J. STATE-SPONSORED HOMOPHOBIA A world survey of laws : Criminalisation , FOREWORD BY ILGA COSECRETARIES GENERAL. 2015.
86. Abah IO, Darin KM, Ebonyi a. O, Ugoagwu P, Ojeh VB, Nasir N, et al. The gap report [Internet]. UNAIDS. 2006. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/23897519>
<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=4002537&tool=pmcentrez&rendertype=abstract>
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1874195/pdf/0970974.pdf>
<http://online.liebertpub.com/doi/full/1>
87. Lorenc T, Marrero-Guillamón I, Llewellyn A, Aggleton P, Cooper C, Lehmann A, et al. HIV testing among men who have sex with men (MSM): Systematic review of qualitative evidence. *Health Education Research*. 2011. p. 834–46.
88. Sandfort TGM, Knox J, Collier KL, Lane T, Reddy V. HIV Testing Practices of South African Township MSM in the Era of Expanded Access to ART. *AIDS Behav*. 2015;19(3):561–74.
89. Pham QD, Nguyen TV, Nguyen PD, Le SH, Tran AT, Nguyen LT, et al. Men who have sex with men in southern Vietnam report high levels of substance use and sexual risk behaviours but underutilise HIV testing services: a cross-sectional study. *Sex Transm Infect* [Internet]. 2015;91(3):178–82. Available from: <http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=medl&NEWS=N&AN=25182158>
90. Thu MX, Linh LC. Literature Review about Access to HIV / AIDS and Sexually transmitted disease / infection prevention services among Men who have sex with Men in Viet Nam. *Viet Nam Public Heal Mag*. 2012;23(23).
91. Ha H, Risser JMH, Ross MW, Huynh NT, Nguyen HTM. Homosexuality-related stigma and sexual risk behaviours among men who have sex with men in Hanoi, Vietnam. *Arch Sex Behav* [Internet]. 2015;44(2):349–56. Available from: <http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=medl&NEWS=N&AN=25617010>
92. Feng Y, Wu Z, Detels R. Evolution of MSM community and experienced stigma among MSM in Chengdu, China. *J Acquir immune Defic*. 2010;53(Suppl 1):1–10.
93. Government THE, Republic S, Viet OF. National strategy on HIV/AIDS prevention and control through 2010 and vision 2020. 2010.
94. Thư B bí. CHỈ VỀ TĂNG CƯỜNG LÃNH ĐẠO CÔNG TÁC PHÒNG, CHỐNG HIV/AIDS TRONG TÌNH HÌNH MỚI. 2005.
95. MOH. National strategy on HIV/AIDS control through 2020 and vision to 2030. 2012.
96. Trapence G, Collins C, Avrett S. From personal survival to public health: community

leadership by men who have sex with men in the response to HIV.
2012;380(9839):400–10.

97. Beyrer C. A call to action for comprehensive HIV services for men who have sex with men. *Lancet*. 2012;380(9839):424–38.
98. Hays RB, Rebchook GM, Kegeles SM. The Mpowerment Project: Community-building with young gay and bisexual men to prevent HIV. *Am J Community Psychol*. Springer; 2003;31(3-4):301–12.