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Female sex workers in Savannakhet, Laos:

**Perceptions, care seeking behaviour and barriers related to
sexually transmitted infection services**

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Institutet**

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The cover photo was taken from Kaysone Phomvihane, the main district of Savannakhet province. It illustrates health care utilization of patients at the drop-in centre.

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ABSTRACT

Background: Sexually transmitted infections (STIs) cause health, social and economic burdens in both low- and high-income countries. Not only do STIs impact quality of life, reproductive health and child health, but they also play a crucial role in facilitating sexual transmission of human immunodeficiency virus (HIV). Prompt, correct diagnosis and treatment with health information are essential elements of STI and reproductive tract infection (RTI) services. In Laos, it is not known what makes female sex workers (FSWs) seek health care or what their priorities are when using public or private STI services. Other issues related to FSWs' vulnerability, such as the social situation, work environment, and perceptions of health and ill-health are poorly understood and thus have rarely been considered when designing interventions.

Aims: To explore FSWs' perceptions of health/illness, and to assess their care seeking behaviours and risk perceptions as well as health care providers' attitudes towards FSWs with STI symptoms in Savannakhet province in Laos.

Methods: Semi-structured interviews regarding knowledge about STIs and attitudes towards FSWs with STI symptoms were performed with 244 health care providers (HCPs) providing STI services (I). Structured interviews about health seeking behavior were carried out with 407 FSWs (III). Both studies were carried out in 6 districts along Road 9, traversing Savannakhet province from Thailand to Vietnam. Descriptive statistics and chi-square test (I), and multiple multivariate logistic regression analyses were performed (III). Studies II and IV were conducted in Kaysone Phomvihian, the main district of Savannakhet province. Fifteen in-depth interviews were carried out with FSWs about what health and illness meant to them and what they believed signified good/bad health (II). Seven in-depth interviews and five focus group discussions were carried out with 39 FSWs (IV) about their working situation, risks related to their work, perceptions about how other people look upon FSWs, how to be accepted by the community, and how to cope with their situation. The qualitative data were analysed using latent content analysis (II, IV).

Results: Fifty-four percent of HCPs had no STI training despite providing STI treatment. Misperceptions of STI causes, transmission routes, and symptoms were common among HCPs from both the public and the private health sectors. A higher proportion of pharmacists/drug sellers (68%) had negative attitudes followed by medical doctors/assistants (59%) and nurses/midwives (55%). The proportion of herbalists with negative attitudes (53%) was less in comparison with the other professionals (I). Eighty-six percent of the FSWs reported RTI/STI signs or symptoms currently or in the last 3 months but only two-thirds (67%) of those with symptoms sought treatment. The mean time of delay from onset of symptom to first visit to a healthcare agency was ten days. Source of treatment for the last RTI/STI episode was the drop-in centre (53%) followed by a public hospital (23%), private clinic (12%), private pharmacy (9%), and herbalist (2%). The main barriers to service use were long waiting time, inconvenient location of the clinic, not knowing where to get the services needed, and negative attitudes among healthcare providers. Care seeking behaviour was associated with longer duration of sex work (OR=2.6, 95%CI 1.52-5.36) (III). One main theme - 'health is wealth and wealth is health'- emerged from the analysis in study II. Health was considered necessary in order to attract clients. On the other hand, money was needed in order to pay for treatment when sick and thus money was a prerequisite for health. FSWs perceived health as the ability to work and support their families while ill-health created social and economic vulnerability (II). The sex workers described their working situations, including their perceived risks. But they also talked about the benefits of sex work, as well as the strategies that they used to reduce risks and increase benefits (IV). The risks related to their work were: 1) STIs/HIV, 2) unintended pregnancy, 3) violence, 4) stigma, 5) being cheated, and 6) social and economic insecurity. The interviewed FSWs spontaneously reported three categories of benefits related to their work: 1) financial security and ways to increase income, 2) fulfilling social obligations, which increases self-value and 3) sexual pleasure.

Conclusions: HCPs indicate limited knowledge about STIs. Furthermore, negative attitudes toward FSWs with STI symptoms were common among HCPs from both the public and private health sectors (I). FSWs sought care from both public and private health facilities. Barriers to accessing RTI/STI services were related to both structural and individual factors (III). Female sex workers' beliefs and perceptions about health and ill-health were dominated by their economic need, which in turn was influenced by expectations and demands from their families (II). The obligation to support one's family threatens FSWs' health and social and financial security (II, IV). FSWs' decision-making and risk taking behaviour were outcomes of risk-benefit analyses and were fueled by gender inequities and cultural and social norms that reinforce women's lower social and economic status (IV). The FSWs were, however, not only victims. They also had some control over their lives and working environment, with most viewing their work as an easy and good way of earning money.

Keywords: female sex workers; sexually transmitted infections; knowledge; attitudes; reproductive tract infections; perceptions; health-seeking behaviour; healthcare provider; Savannakhet; Laos

LIST OF PUBLICATIONS

This thesis is based on the following original papers:

- I. Phrasisombath K, Thomsen S, Hagberg J, Sychareun V, Faxelid E. **Knowledge about sexually transmitted infections (STIs) and attitudes toward female sex workers with STI symptoms among health care providers in Laos.** *Asia Pac J Public Health* 2011, DOI: 10.1177/1010539511416223.
- II. Phrasisombath K, Thomsen S, Sychareun V, Faxelid E. **'Health is wealth and wealth is health'-perceptions of health and illness among female sex workers in Laos.** (*submitted*)
- III. Phrasisombath K, Thomsen S, Sychareun V, Faxelid E. **Care seeking behaviour and barriers to accessing services for sexually transmitted infections among female sex workers in Laos.** *BMC Health Serv Res* 2012, 12(1):37.
- IV. Phrasisombath K, Faxelid E, Sychareun V, Thomsen S. **Risks, benefits and survival strategies-views from female sex workers in Laos.** (*submitted*)

The papers will be referred to by their roman numerals I-IV.

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LIST OF ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
ART	Antiretroviral therapy
ASEAN	Association of Southeast Asian Nations
BCC	Behaviour change communication
CI	Confidence interval
CBHI	Community-Based Health Insurance
DHC	District health centre
FGD	Focus group discussion
FHI	Family Health International
FSW	Female sex worker
GDP	Gross domestic product
HCP	Health care provider
HEP	Health Equity Fund
HIV	Human Immunodeficiency Virus
IHCAR	Division of Global Health, Department of Public Health Sciences, Karolinska Institutet
MCH	Maternal and child health
IMR	Infant mortality rate
MMR	Maternal mortality ratio
MoH	Ministry of Health
MSM	Men who sex with men
NCCA	National Committee for the Control of AIDS Bureau
OR	Odds ratio
PCCA	Provincial Committee for the Control of AIDS/HIV/STI, Secretariat of HIV/AIDS and STIs Prevention and Control Unite
PLWHA	People living with HIV/AIDS
RAs	Research assistants
RTI	Reproductive tract infections
SASS	State Authority Social Security
SD	Standard deviation
Sida	Swedish International Development Cooperation Agency
SSO	Social Security Organization
STI	Sexually transmitted infections
TFR	Total fertility rate
U5MR	Under-5-year mortality rate
UNAIDS	United Nations Joint Programme on AIDS
VCT	Voluntary counseling and testing
WHO	World Health Organization

PREFACE

I am a medical doctor with two years of experience of working as a physician in the Intensive Care Unit Paediatric ward in Vientiane, Laos. I changed my career after I took a masters course in public health in Thailand in 2005. I started working as an assistant lecturer in public health in the Faculty of Postgraduate Studies and Research, University of Health Sciences in Vientiane. Working in the area of public health has opened my eyes to public health issues. In 2006, I had the opportunity to attend a leadership course on gender and sexuality in Vietnam. This further increased my interests in sexual behaviour and sexual risk taking among vulnerable groups.

In 2007, I was introduced to the Health Systems Research Strengthening Project supported by Sida, the National University of Laos, and the University of Health Sciences, Laos. Through this project I became acquainted with Professor Elisabeth Faxelid from Karolinska Institutet and I was accepted as a PhD student at the Division of Global Health (IHCAR). During my training I have been exposed to researchers and students from different scientific areas, which has allowed me to increase my knowledge and learn more about the research process, both with a quantitative and qualitative approach and from a medical and social science perspective.

In my research, I have gotten to know many FSWs and their situations. I have realized that these women are not as I previously believed. They are neither the cause of the spread of diseases nor the cause of social ills; rather, they are victims. I wish that the findings of my research can provide valuable information for health policy-makers in order to develop more effective intervention programs and quality improvement of RTI/STI services in Laos, and to protect the women and benefit those who are in need.

1. BACKGROUND

1.1 Sexually transmitted infections – a public health problem

Sexually transmitted infections (STIs) cause health, social and economic burdens in both low- and high-income countries [1]. Not only do infections with sexually transmitted pathogens impact quality of life, reproductive health and child health, but they also play an important role in facilitating the sexual transmission of human immunodeficiency virus (HIV) [2, 3]. The World Health Organization (WHO) estimate that each year 340 million new cases of curable STIs occur throughout the world in men and women aged 15-49 years, with the largest proportion in the region of South and Southeast Asia, followed by sub-Saharan Africa, Latin America and the Caribbean [1].

STIs are caused by about thirty different identified agents includes protozoa, and parasites that can be killed by effective medications [4]. STIs are one of the three infection groups in reproductive infections (RTIs) [5, 6] (Table 1). From a public health perspective, the most important STIs, exclusive of HIV, are *sypphilis*, *gonorrhoea*, *Chlamydia*, and *trichomonas* [5]. Despite the availability of treatment, STIs are still a major public health problem worldwide [7]. The problem is not just because they are difficult to diagnose and eliminate, but because STIs are sometimes asymptomatic, which means that they can be transmitted without the knowledge of the carrier [8-11].

Table 1: Reproductive tract infections (RTIs) refer to three types infections.

	1) Sexually transmitted infections (STI): transmitted through sexual contact with an infected partner such as <i>Treponema pallidum</i> (syphilis), <i>Neisseria gonorrhoeae</i> , <i>Chlamydia trachomatis</i> , and <i>Trichomonas vaginalis</i> .
RTI*	2) Endogenous infections: resulting from an abnormal growth of organisms normally present in the vagina such as bacteria vaginosis and candidiasis.
	3) Iatrogenic infections, transmitted, for example, through unsterile procedures in the vagina tissue or cervix such as insertion of an intrauterine device or unsterile abortion.

*Note: STIs have more severe health consequences than other RTI infections (*Endogenous and Iatrogenic infections*), the term RTI/STI is used throughout the thesis to highlight the importance of these infections, but the term STI is used unaccompanied when information provided is irrelevant to RTI.

STIs may result in adverse health outcomes, particularly in women and children, such as infertility, perinatal death (abortion, stillbirth) or blindness in neonates [12]. Delay or mistreatment of *chlamydial* infections and gonorrhoea in women may result in ectopic pregnancy and pelvic inflammatory disease [12, 13]. Evidence from Africa indicates that 25 per cent of untreated *sypphilis* in pregnancies result in stillbirth and 14 per cent in neonatal death [4]. In men, prolonged gonorrhoea infection increases the risk of para-urethral gland inflammation, epididymitis and infertility [14]. Globally, about 4,000 newborn babies become blind every year because of *gonococcal* or *chlamydial* eye infections [15]. STIs account for 17 per cent of economic losses caused by ill-health worldwide [7]. Furthermore, stigma and discrimination attached to STIs places social and psychosocial burdens on infected individuals and their families [16-18].

1.2 Prevention and control of RTI/STIs from a global perspective

The UNAIDS and WHO STI control strategies comprise three aims: 1) to interrupt the transmission of STIs, 2) to prevent the development of diseases, complications, and

sequel and 3) to reduce the transmission of HIV infection [19]. Health care providers (HCPs) play a crucial role in the control and prevention of RTI/STI through early and accurate diagnosis, appropriate treatment, counselling and follow up [20, 21]. Effective treatment of STIs can significantly reduce the prevalence of STIs and HIV by limiting the transmission in the community [2, 22], especially among populations who are most likely to have multiple sexual partners such as sex workers and their clients [23-25]. Although the public health benefits are substantial, providing effective interventions to these groups is challenging.

1.2.1 Diagnostic of STIs

There are two methods to diagnose STIs, syndromic management and laboratory-based tests. Syndromic management is based on recognition of symptoms reported by the patient and identification of signs from a medically experienced clinician. It is a low cost procedure and treatment can begin immediately after the diagnosis. However, it is unstandardized and often inaccurate [26]. Laboratory-based diagnosis has high accuracy in detecting RTI/STIs but includes the high cost of testing services and requires resources such as lab equipment with trained technicians. This approach may require patients to have several visits to the clinic, which might result in delayed treatment [27]. Despite laboratory-based diagnosis being desirable there are limitations, especially in resource-constrained settings such as the cost of maintaining a laboratory and ensuring quality control. Based on this, the WHO recommends the syndromic management approach in order to standardize and improve clinical practice [27].

1.2.2 Syndromic management approach

The syndromic management approach is based on the identification of a group of symptoms and signs (reported by the patient) associated with observation by a clinician during a physical examination. Treatment is provided according to a pre-established guideline. Patients with RTI/STI signs or symptoms can thus receive treatment from the HCPs without waiting for the results of laboratory tests.

Syndromic management for STIs is dependent on reliable diagnosis, effective drug treatment, condom promotion and provision, identification and treatment of sexual partners, and counseling to promote risk reduction. General physicians can be trained to apply the syndromic approach [28, 29]. The WHO has developed simple flowcharts to guide physicians in applying the syndromic approach and use in training package. The use of clinical flowcharts is simple and treatment is standardized which cover the main syndromes including 1) urethral discharge in men, 2) vaginal discharge, 3) lower abdominal pain in women, and 4) genital ulcer in men and women [27, 30].

The syndromic approach has been shown to be effective for the management of STI and commonly used in low-income countries. However, STIs often exist without symptoms mainly in women [11] and using this approach requires that individuals with STI symptoms present themselves to a health facility. In addition, syndromic management aims to cover signs or symptoms reported by patients, which often lead to a long list of

prescriptions and medicines that might increase the patients' expenses and promote the development of antibiotic resistance [31, 32].

1.2.3 Prevention and control of RTI/STIs in low-income countries

There are three main factors that contribute to the limitations in management and control of RTI/STIs in low-income countries, including: 1) individual knowledge, attitudes and behavior, 2) service provision, and 3) policymakers. At the individual level people with RTI/STIs may not seek treatment because they are asymptomatic or have mild symptoms. Even if symptomatic, people with RTI/STIs may prefer to buy drugs without prescription from pharmacies [33] or seek treatment from traditional healers [34]. At the service provision level, the patient may not be properly diagnosed and treated [11, 27]. Counselling on risk reduction and confidentiality in service provision are often lacking [35, 36]. The difficulty in notifying and treating infections in sexual partners is one of the challenges in the management of RTI/STI. Finally, policy-makers give low priority to control of STIs and allocating resources [1], and there is a failure to provide suitable education and services to populations identified as being particularly vulnerable to STIs, such as adolescents, sex workers and their clients, men who have sex with men (MSM), transgendered people, substance users, prisoners, and mobile populations.

1.2.4 STIs and HIV among female sex workers

The risk factors for STI and HIV transmission among FSWs include risky sexual behaviour such as a high number of sexual partners and inconsistent condom use, together with limited access to health care services and means of prevention [37, 38]. Further, FSWs who inject drugs are at an even higher risk of acquiring HIV [39]. Although the global incidence of HIV infection has decreased worldwide [40], the rates of STI and HIV infections continue to increase among sex workers and their clients in low-income countries [41-43].

The number of countries reporting high HIV prevalence related to sex workers increased between 2005 and 2009 [44]. In sub-Saharan Africa, HIV prevalence among FSWs is high, for example 70 per cent in South Africa [45] and Sierra Leone [46], and 27 per cent in Zimbabwe [47]. In Swaziland and Zambia, HIV prevalence is estimated to be 19 per cent [48] and 41 per cent in FSWs respectively [49]. Studies have also found that the HIV prevalence among FSWs in Kenya was 27.6 per cent and 47 per cent in Uganda [50]. In Ethiopia 45 per cent of HIV-1 subtype was found among sex workers [51]. In Burkina Faso, HIV is also common among sex workers [52]. Surveys among bar-based sex workers in Djibouti (a country in the Horn of Africa) have detected HIV prevalence as high as 26 per cent [53]. Studies carried out in the Caribbean identified high infection rates in Guyana and Jamaica (27% and 9%, respectively) [53]. Surveys in Guatemala and El Salvador have determined HIV prevalence among FSWs to be four and three per cent respectively [54].

In Asia, unprotected commercial sex is the most important risk factor for the spread of HIV [55]. In Vietnam, HIV prevalence among sex workers increased from approximately 6 per cent in 2005 [56] to approximately 22 per cent in 2010 [57]. The prevalence of HIV

among FSWs in India ranged between 2 and 38 per cent [58]. The HIV prevalence among FSWs in Thailand was 15.1 per cent [59] and 8.2 per cent Indonesia [60]. The HIV prevalence among FSWs in Pakistan was less than one per cent but the high level of risky behaviours indicate that this could rise sharply. For example, only one per cent street-based workers reported using a condom at last sexual act in Sukkur [61]. HIV prevalence among FSWs has been reported at 15.8 per cent in Phnom Penh, Cambodia [62] and about 8.3 to 10 per cent in China [63, 64].

1.2.5 FSWs' risks and care seeking behaviour

FSWs are exposed to a number of negative health outcomes [65]. They engage in high risk sexual behaviours, which might place them at risk to STIs and HIV, rape, violence and unwanted pregnancy [66]. Sex workers tend to wait longer to obtain medical advice when ill and are less likely to use health care services compared with women in general [65]. Perception of health and illness as well as financial constraints influences FSW's decision to seek health care [67]. Furthermore, poor living conditions and working under threats in order to support one's family contributes to inadequate health care [68, 69]. In addition, FSWs often perceive themselves inferior to other people and tend to live in social isolation, avoiding public health care and information services [70, 71].

Several studies have found that social and psychological factors prevent FSWs from seeking health care for their symptoms related to sexual health [72, 73]. There is a strong relationship between intention to seek care promptly and the perceived outcome of seeking health care [74]. The promptness will thus be due to the person's own evaluation of their health, illness and risk behavior [74, 75]. Studies have shown that FSWs seek treatment from private pharmacies and that their decision to seek care is compromised by high costs, and long waiting time [76]. Stigma and judgmental attitudes of HCPs is also recognized as a major barrier to health care among FSWs [67]. Moreover, FSWs are likely to prefer outreach services or targeted STI services due their desire for privacy and confidentiality [36]. Women in commercial sex for example in India did not perceive themselves to be susceptible to HIV or other STIs, which then made them highly vulnerable to these infections [77].

1.2.6 Quality of STI services and programme interventions

STI treatment is one of the key elements in HIV prevention [2] and HCPs play a crucial role in providing RTI/STI services. However, quality of the services, particularly in low-income countries remains a challenge. In Abidjan, Cote d'Ivoire, lack of equipment and well-trained health workers were major constraints in providing RTI/STI services [78]. In Zambia, lack of treatment facilities, inadequate training of health workers, negative attitudes towards STI patients, low motivation and high workload among health workers as well as problems related to administration were associated with low quality of STI services [79].

Health workers' attitudes are one of the most important elements in quality of care as they could affect whether or not patients use health services. Poor relationships between providers and patients can reduce the success of STI case management [80]. A study

from Vietnam found that FSWs' decision to seek treatment was hindered by negative attitudes of service providers [67]. In Pakistan, judgmental attitudes towards STI patients was common [81]. In Zambia, negative attitudes of HCPs discouraged patients from following treatment advice and STI patients preferred to visit traditional healers because of insensitive attitudes of health workers [34]. If FSWs perceive negative attitudes and stigma from HCPs, they might self-medicate and delay seeking care, which may increase adverse effects of STIs for the women [20] their customers, and the general population.

FSWs are an important target group in HIV control programmes [82]. The success of these programmes has been increased by addressing some of the above barriers to use. In India, interventions have achieved effective progress by combining sexual risk reduction programmes, condom promotion and improved access to STI treatment among FSWs [83]. In the Philippines, individual counseling has been shown to be an essential and effective method for individual compliance to treatment as it significantly increased public clinic attendance and reduced STI and HIV among female bar workers [84]. Behavioral interventions worldwide also have been reported in improving condom use and increased sexual health knowledge among FSWs [82, 85, 86].

1.2.7 Gender inequities and women's risk

Economic and gender inequities together increase the risk of HIV infection, especially among women [42]. In many parts of the world, women from poor families have limited education. For example, when parents cannot afford to educate all their children boys are often prioritized. Furthermore, girls are often kept out of school in order to take care of domestic duties at home [87]. Lack of education and skills has an effect on women's and girls' HIV risk because of their economic dependency on male partners [88]. Women and girls are also at risk of HIV because of their limited access to prevention information and tools [89]. A study in sub-Saharan Africa found that women strive to get basic needs and some thus engage in risky behaviors, such as commercial sex, which can bring basic survival resources [90]. In Vietnam, FSWs accept sex without a condom because of the need to get more pay and to support their family [69, 91]. In many aspects, including reproductive health and health care utilization, women and girls, particularly in society characterized by gender inequality, have less decision making power [92].

1.3. Lao People's Democratic Republic

Demographic information

Laos, which is situated in Southeast Asia, is classified as a low-income country. About 71 per cent of the Lao population is living on less than 2 US\$ per day and 27 per cent are living below the poverty line (National poverty line) of 1 US\$ per day [93]. In 2010, the population was estimated to be 5.6 million, with an almost equal number of women and men. Sixty-seven per cent of the population is Buddhist, and 33 per cent are Animists, Christians, Catholics or Muslims. The population age-pyramid is characteristic of a young population, with about 50 per cent under 20 years of age. The life expectancy at birth is 64 years for men and 67 years for women. Eighty per cent of the population lives in rural areas. The literacy rate for the population aged 15 and above is 73 per cent, with fewer women (63%) compared to men (83%) being literate [94]. The employment rate for men is

86 per cent compared to 74 per cent for women [95]. In 2010, the average yearly income per capita was US\$ 1,176 [96], compared with US\$ 587 in 2005 [94].

Economic liberalization was initiated in 1986. Laos became a member of Association of Southeast Asian Nations (ASEAN) in 1997. As a result, infrastructural development, particularly road and dam construction, as a prerequisite for further macroeconomic development, expanded. The country has experienced economic expansion, business transactions and a blooming of the tourist and transportation industries. At the same time, unemployment and income inequalities between people in rural and urban areas have also arisen. Market-oriented growth and urbanization have influenced the lifestyle of ordinary Lao people, and social relations have become more diverse, especially among young people [95].

Gender and sexuality

In 1990, the Lao government endorsed the Convention on the Elimination of all forms of Discrimination Against Women (CEDAW), which specifies that men and women should have equal access to society's benefits. Laos' efforts in addressing gender issues and equality have been relatively successful. For example, the proportion of women in the political system has increased from 6 per cent in 1990 to 25 per cent in 2006 [97]. In addition, Laos ranked 107th out of 187 countries on Gender Inequality Index in 2011 [98]. Although improvements have been observed, gender specific issues still need more integration into development strategies and plans [99]. Women and girls still face challenges of traditional gender roles such as domestic duty workload, unplanned child births, and restricted opportunity for higher education.

In Laos, sexuality is a sensitive issue that is not openly discussed. Despite economic development, traditional culture and gender norms remain conservative. For example, pre- and extramarital sexuality is discouraged for women. On the other hand, it is widely accepted for men, whose sexual needs are perceived as normal and natural [100]. Furthermore, a study from Laos found that policy makers and healthcare providers expressed negative attitudes towards young peoples' sexuality and refused to offer emergency contraceptive pills because of the perception that it would encourage sexual relationships among young people [101]. Young women and girls in Laos also face low priority and lack of confidentiality when accessing contraceptives services [100].

Reproductive, maternal, and child health in Laos

Laos has made significant progress in improving life expectancy and reducing infant mortality rate (IMR) during the past 10 years (Table 2). For example, the IMR declined sharply from 82 to 48 per 1000 live births from 2000 to 2010. The maternal mortality ratio (MMR) has fell from 530 to 405 per 100,000 live births between 2000 and 2005. The under-five mortality rate also decreased from 170 to 61 per 100,000 live births during the same period. The proportion of women who attended at least one antenatal care (ANC) visit increased from 67 per cent in 2005 [102] to 71 per cent in 2010 [103]. Despite these improvements, maternal and infant mortality is still high in Laos. Most of child and maternal deaths occur in rural areas where access to health facilities is difficult.

Most child deaths in Laos are due to preventable and treatable infectious diseases (19% pneumonia, 16% diarrhoea, 6% measles) [104].

Table 2: Profile of Lao's reproductive health indicators

Indicators	2000 ^a	2005 ^b	2010
Total population growth rate (%)	2.6	2.1	-
Total fertility rate (%)	5.9	4.5	-
Life expectancy at birth – M/F (years)	57/61	59/63	64/67 (i)
Infant mortality rate (per 1,000 live births)	82	70	48 (ii)
Under-five mortality rate (per 1,000 live births)	107	90	61 (ii)
Maternal mortality ratio/100,000 live births	530	405 (v)	-
Children under 5 years stunted for age (%)	-	-	40 (iii)
Antenatal care coverage – at least one visit (%)	-	67	71 (iv)
Prevalence of tuberculosis/100,000	-	-	151 (vi)
Prevalence of HIV (% of population)	0.01	0.05	0.2 (vii)
Population living below US\$1/day poverty line (%)	-	-	25.6 (x)
Government expenditure on health as % of GDP	-	-	0.8 (ix)

Source data:

- a Lao National Statistic Center, 2000
- b Lao National Statistic Center, 2005
- i World Bank Databank: Lao People's Democratic Republic (<http://data.worldbank.org/country/lao-pdr>).
- ii WHO Immunization Profile: Lao People's Democratic Republic. (http://apps.who.int/immunization_monitoring/en/globalsummary/countryprofileresult.cfm).
- iii UNICEF/WHO Joint Monitoring Programme, 2010.
- iv WHO Global Health Observatory Data Repository (<http://apps.who.int/ghodata/?vid=93000>).
- v Lao Reproductive Health Survey, Ministry of Health, 2005.
- vi Global TB Control Report, WHO, 2009.
- vii UNGASS/UNAIDS progress report, Ministry of Health, Lao PDR, 2010.
- viii UNICEF/WHO Joint Monitoring Programme, Lao PDR, 2008.
- ix National Health Account. Ministry of Health/MOH, Lao PDR, 2009
- x National Statistic Annual Report, FY 2009/2010. Ministry of Health, Lao PDR, 2011
- xi Department of Primary and Preschool Education, Ministry of Education, Lao PDR 2011.

Common health problems among Lao people

Communicable diseases

Malaria is a major leading cause of mortality and morbidity in the Laos, with approximately 50 per cent of the population at risk [105]. The annual incidence of malaria per 1,000 persons decreased from 9 in 2001 to 4 in 2009. The number of malaria deaths in hospitals declined from 187 in 2003 to 5 in 2009. Parasitic infection remains a serious issue throughout the country, with nearly 50 per cent of the total population at risk of soil transmitted *helminthiasis* in 2010 [106]. Consumption of raw fish facilitates *opisthorchiasis* transmission [107]. Furthermore, *schistosomiasis* and lymphatic *filariasis* remain endemic in two southern provinces of Laos, Champasak and Attapeu province [108]. Tuberculosis (TB) is also a public health problem in Laos. In 2009, the estimated prevalence of all forms of TB was 289 per 100,000 persons. Incidence of all forms of TB was 151 per 100,000, incidence of new sputum-smear positive pulmonary TB was 67 per 100,000 and mortality due to TB was 24 per 100,000. The number of registered TB cases who started on treatment increased from 2,227 cases (in 2000) to 4,083 cases (in 2010), while the treatment success rate has remained at 90 per cent or above since 2005. An estimated six to ten per cent of TB patients are co-infected with HIV [109].

Non-communicable diseases

Every year, the number of deaths due to non-communicable diseases (NCDs) is around 12,100 males, and about 11,700 females [110]. The most common NCD-related deaths are cardiovascular diseases. Diabetes have the highest age-standardized death rates per 100,000 (468 for males and 330 for females), followed by chronic respiratory diseases (123 for males and 111 for females), and cancer kills 145 males and 89 females per 100,000 persons [110]. Malnutrition poses a significant health threat, particularly among children, with 37 per cent of children under five years old being underweight and 40 per cent being stunted [102].

Social security and health care financing

The annual Gross Domestic Product (GDP) growth rate of Laos has been around eight per cent over the last five years [111]. Per capita health spending increased from US\$8.5 in 1997 to US\$11.5 in 2001, and US\$36 in 2009 [112]. About 62 per cent of total health care expenditures comes from individuals' own pockets [113, 114]. Laos ranked 138th amongst 187 countries on the human development index scale in 2011 [98]. Social health protection was introduced in 2002, and presently, there are four different schemes: 1) State Authority Social Security (SASS) scheme for civil servants, 2) Social Security Organization (SSO) scheme for private sector employees paid by the private company, 3) Community-Based Health Insurance (CBHI) scheme, and 4) Health Equity Fund (HEF) supported by external donors (the Swiss Red Cross) focusing on the 20 per cent poorest population. The four schemes cover 12.5 per cent of the total population [112, 115].

The Ministry of Labour and Social Welfare is responsible for two schemes: SASS and SSO. CBHI and the HEF programme fund are under the responsibility of the Ministry of Health (MoH). The insurance schemes are part of the Poverty Eradication Strategy approved by the Lao Government in 2003, with a focus on achieving the goal of "liberating the country from the status of least-developed country" by 2020 [116]. The ultimate goal of the government's health strategy is equity in access to health care thus contributing to poverty reduction [113]. Although efforts were made to reduce user fees, subsidies are still very low. Patients often pay "*under-the-table*" fees in order to access public hospitals and to receive a higher quality of services. This increases inequity in the health care system, as has been reported also in other settings [117]. HEF was launched in 1995 to support health care utilization among the poor, but it was ineffective due to the limited government budget and an unclear definition of the term "poor people".

Health system characteristics

The health care system in Laos is similar to most transitional societies, including different systems of medicine and medical pluralism. There are two categories of health systems: public and private [93]. The public health sector is in charge of both preventive and curative services, which comprises hospital services delivery (in-patient) care, primary health care services and services delivered by vertical programmes. The private health sector includes private physicians, private clinics, registered pharmacies and drug sellers, traditional healers, traditional herbalists, and traditional birth attendants, which mostly deliver curative (out-patient) care. The public health system is not able to cover

the whole population in Laos [118], so private health care plays a crucial role in health service provision.

Health service delivery

Public health sector

At the central level, the MoH is in charge of the management of health services through the country. Laos currently has four regional hospitals, 16 provincial hospitals, 130 district hospitals and 862 health centres (HCs) with a total of 6,707 beds [102, 112]. At the provincial level, services are under supervision of the provincial health offices. Service provision includes curative and preventive services through provincial hospitals, which have about 5,000 beds in the country. District hospitals are also responsible for providing curative and preventive services. On average, a district hospital has about 30-60 beds and provide care for a population of approximately 50,000 people [93].

Private health sector

There are 254 registered private clinics and another 647 that have requested authorization, and 2,132 registered pharmacies [102]. Most of these facilities are located in urban areas and close to district or provincial hospitals [93]. According to the MoH, involving private providers in health care provision would help improve quality of health services. However, some private HCPs offering health services or dispensing drug are untrained. Furthermore, the staff of private pharmacies have been found to prescribe drugs irrationally and give little information about drugs [119, 120]. In Laos, drug sellers, traditional herbalists, and traditional birth attendants play a crucial role in providing health service due to local culture and beliefs, but they are also commonly used in areas where health facilities are hard to reach.

Health seeking behaviour among general population

There are a wide range of therapeutic options available in Laos from self-care to traditional and western (allopathic) medicine. The national health survey in 2000 found that around 50 per cent of those who were ill sought care. About two-thirds of these sought treatment from a private pharmacy, one-fourth used public facilities, five per cent visited a private clinic, three per cent consulted village health volunteers or traditional birth attendants, and one per cent visited a traditional herbalist [121]. In 1999, the Asian Development Bank conducted a national household survey in Laos found that self-medication, including visiting a private pharmacy, was found to be a common health seeking behaviour (63%) [122].

Health utilization is low due to poor access to health facilities with only eight per cent of villages having a HC. Most services in the rural areas are provided through a private health sector that includes private drug sellers, village health volunteers, traditional healers and traditional birth attendants. Laos has poor basic infrastructure and the country has limited transportation or communication systems, particularly during the rainy season [102, 112]. Moreover, health services do not meet the increasing demands for health care, and there is insufficient outreach services, monitoring and supervision.

Some reasons for low utilization are related to lack of staff and drugs, and costs of accessing the available health services [123].

STI, HIV and AIDS in Laos

Laos is a low HIV-prevalence country, with 0.2 per cent of adults aged 15-49 estimated to be HIV positive [44]. In 2007, the cumulative number of registered HIV infections in Laos reached 2,400, amongst whom 1,523 cases of AIDS had been detected and 775 died of AIDS. About 85 per cent were transmitted through sexual contact with an infected partner [124]. Official figures at the end of 2007 indicated that about 700 sero-positive persons received antiretroviral therapy (ART), which represents 60 per cent of those in need, compared to 300 in 2000 [125]. More than half of the persons living with HIV are migrant workers and FSWs [125].

In 2010, CHAS and UNAIDS estimated that approximately 8,000 individuals were living with HIV in Laos [126]. The majority of the HIV cases have been identified in three provinces: 40 per cent in Savannakhet, 33 per cent in Vientiane and 9.8 per cent in Champasak. These provinces experience significant cross border immigration, economic transactions and transportation. Not surprisingly, the largest proportion of notified HIV cases in Laos are in migrant workers (19%), which highlights the role migration plays in the epidemic [126]. The major risk factor for HIV in Laos is risky sexual behavior, as evidenced by the high STI prevalence (*gonorrhoea* or *chlamydia*) across different vulnerable groups, which ranges from nine per cent in MSM [127] to 22 per cent in FSWs [124].

Female sex workers in Laos

In Laos, sex work is illegal [128] and previously FSWs were put in rehabilitation camps called Don Nang Island “Women Island” due to inappropriate behaviour [129]. This is, however, no longer practiced. Commercial sex is still not legalized and considered immoral and highly stigmatized, although a visible phenomenon in Lao society. There are two types of FSWs in Laos: street-based FSWs and venue-based FSWs. Street-based FSWs are women who work at night standing at street junctions or in parks in cities and towns where they expect to get clients. These women find clients through *mamasans* (pimps) or their own contacts and entertain them in guesthouses or hotels. Venue-based FSWs are women who are officially employed as hostesses to work in entertainment places (e.g. beer bars ‘drinkshops’, karaoke bars, nightclubs, guesthouses and restaurants) to provide services to clients in the form of conversation, serving beer and snacks, but also selling sex. They are often referred to as “service women”. Venue-based FSWs provide sexual services in guesthouses or hotels or in the client’s room [130]. In Vientiane, the capital of Laos, other types of sex workers are also found, including male sex workers and “call girls” (women who leave their contact number with *mamasans* in a guesthouse or hotel for men who are searching for sexual partner).

STIs and HIV among FSWs and MSM in Laos

Although the HIV prevalence among adults has remained low in Laos, HIV infection among FSWs and their clients and MSM are on the increase. For example, HIV prevalence among FSWs increased from less than one per cent in 2001 to two per cent in 2004. In

2004, the HIV prevalence among FSWs in Bokeo province reached almost four per cent, and the prevalence of other STIs such as Chlamydia rose from 14 to 18 per cent and gonorrhoea from 33 to 38 per cent [131]. In 2009, a behavioural survey amongst FSW and MSM in five major cities in Laos found that about 31 per cent of FSWs reported having had STI symptoms and 18 per cent reported having symptoms at the time of the interview, whereas HIV prevalence was found to be less than one per cent [124].

Data suggest that high HIV and STI rates among FSWs are linked to highly risky sexual behaviour like inconsistent condom use. For example, in 2004 consistent condom use with commercial sexual partners ranged between 33 and 68 per cent in different provinces of Laos (33% in Luang Prabang, 52% in Vientiane, 57% in Luang Namtha, 66% in Champasak, and 67% in Bokeo) [131]. A behavioural survey amongst FSW and MSM in five major cities in Laos in 2009 found that 39 per cent of FSWs had unprotected sex due to clients proposing money for unprotected sex. In addition, FSWs in Laos indicated limited knowledge about HIV: 52 per cent believed that HIV could be transmitted through mosquito bites, 12 per cent believed that HIV could be transmitted by sharing food utensils, and 38 per cent believed that HIV could be prevented by taking antibiotics before or after sex [124].

Lao National STI/HIV control programme

Laos is surrounded by countries with higher HIV prevalences such as Cambodia, Thailand, Burma, China and Vietnam [44]. Low levels of HIV awareness and limited access to preventive information increase HIV vulnerabilities in Laos. The first intervention efforts in response to HIV and AIDS in Laos were established by the National Committee for the Control of AIDS Bureau (NCCAB) in 1998. The first National Strategic and Action Plan on HIV/AIDS and STIs included 1) access to care without discrimination, 2) a multi-sectoral approach, 3) voluntary approaches with informed consent, 4) confidentiality and privacy in counseling, 5) empowerment of individuals to take responsibility, 6) gender equity, 7) accessibility to affordable and acceptable services, 8) reduction of risk for vulnerable individual and community groups, and 9) involvement in decision making of those affected by HIV/AIDS [132].

After 2000, the National Strategic and Action Plan on HIV/AIDS and STIs was revised and updated every five years. The National Strategic and Action Plan on HIV/AIDS and STIs 2006-2010, developed by the NCCAB, aimed to expand national capacity for universal access to treatment, and care and support with nondiscrimination in order to improve the situation throughout the country. The planned target groups included FSWs and their clients, mobile populations, drug users, and MSM. In addition, the plan aimed to raise HIV risk awareness among mobile populations, promote behaviour change and increase condom use, voluntary counseling and testing (VCT) and referral services [133]. Furthermore, the 100 per cent condom use programme, which was launched in 2003, was expanded to cover 14 out of 17 provinces in Laos. VCT services are now available in all 17 provincial capitals and additionally in 16 districts. Drop-in centres have been established in five provinces with services targeting FSWs, MSMs and migrant workers, although they do not cover all provinces in Laos due to limited resources [133]. Provision of health services

targeted to FSWs is limited due to lack of comprehensive monitoring and evaluation because national sero-surveillance studies are not consistently carried out because of limited material resources and coordination [126].

1.4 Rationale of the study

There are few STI clinics and clinical STI specialists in Laos. FSWs with STIs are mainly seen by gynaecologists or general health practitioners working in the public/private health sectors, where syndromic STI case management is used for diagnosis and treatment particularly in rural areas. HCPs play a crucial role in providing appropriate, good quality STI services [1]. In a previous study from Laos, HCPs reported inadequate knowledge and competencies in management of RTIs/STIs [134]. In addition, self-medication for RTIs/STIs through private pharmacies is common among FSWs [124]. Given such limited competencies among HCPs in STI services and common self-medication among FSWs, there is a potential risk for drug resistance and increased incidence of HIV and other STIs. FSWs received priority attention in the Lao National Policy and National Action Plan for the prevention and control of HIV/AIDS and STI [133]. However, there has been no study about FSWs' lives or health practices such as decision to seek professional care, or about their priorities when using different types of health care services. Furthermore, information in relation to FSWs' own perceptions about health and illness and their working environment is lacking. Understanding the reasons why FSWs seek or do not seek care is essential in order to help design more effective interventions and suitable strategies to encourage FSWs to access appropriate treatment.

2. AIM AND OBJECTIVES

2.1 Overall aim

To explore FSWs' perceptions of health/illness, and to assess their care seeking behaviours and risk perceptions as well as health care providers' attitudes towards FSWs with STI symptoms in Savannakhet province in Laos.

2.2 Objectives

1. To assess health care providers' knowledge about STIs and attitudes towards FSWs with STI symptoms in Savannakhet province, Laos (I).
2. To explore perceptions of health and illness among FSWs in Savannakhet province, Laos (II).
3. To assess care seeking behaviour and barriers to accessing health services regarding STI symptoms among FSWs in Savannakhet province, Laos (III).
4. To explore the working environment and perceived risks among FSWs in Savannakhet province, Laos (IV).

3. MATERIAL AND METHODS

3.1 Study setting

This thesis comprises four studies. Two quantitative studies (I and III) were carried out in six districts along Road 9: Kaysone Phomvihane, Outhoumphone, Atsaphangthong, Thaphalanxay, Phine, and Sepone in Savannakhet province and two qualitative studies (II and IV) were conducted in Kaysone Phomvihane (previously called Khanthabouly), the main district of Savannakhet province. Savannakhet is located 550 km south of Vientiane, the Capital of Laos (Figure 1). It borders Khammuan province in the North and Saravanh province in the South, Vietnam in the East and Thailand in the west.



Figure 1: Map of Laos in Southeast Asian region.

The second Mekong friendship bridge connects the province to Thailand in the West, which makes the province an important economic zone. In addition, Road 9, a main commercial route, traversing Savannakhet from Thailand to Vietnam (East–West corridor) provides transportation links that offers opportunities for regional and international trading (Figure 2). The province has 132,301 households with approximately 826,000 inhabitants, of which women represent 51 per cent. The literacy rate of the population aged fifteen and above is 68 per cent. About 77 per cent of the population live in rural areas [94].

The healthcare system in Savannakhet has a similar structure to other provinces in Laos, and comprises one provincial and 14 district hospitals, 94 HCs, and 34 private clinics.

There is one public pharmacy in each hospital and 155 licensed private pharmacies in the province. In 2008 the province had 93 medical doctors, 223 medical assistants, 600 nurses, 11 midwives, and 74 pharmacists [135]. The numbers of traditional birth attendants and herbalists is unknown. The main source of income in the province is from gold mining and cement and sugar production. A majority of people living in rural areas are small-scale farmers who live on wet rice farming and production of cassava, bananas, water-melon, and rubber plants, livestock keeping, and trading.

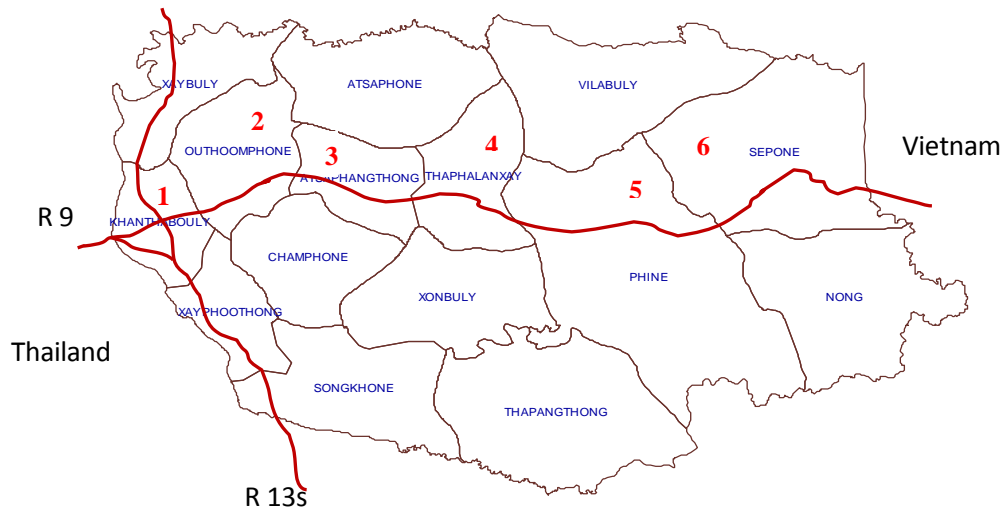


Figure 2: Map of Savannakhet province.

Note: Before 2007, Kaysone Phomvihian was called Khanthabouly.

Training in STI case management and services

Training in STI syndromic case management was implemented in Savannakhet in 1999. Additional STI training has occasionally been conducted depending on resources. The training focused on health personnel from the public sector, mainly those working in gynaecology-obstetric wards in the 15 hospitals but health personnel from private clinics and private pharmacies have also been trained [135]. In 2003, a 100 per cent condom use program and provision of ART for HIV positive persons was introduced [136]. In 2006, a drop-in centre was established in Kaysone Phomvihian. The centre is under the supervision of the Secretariat of HIV/AIDS/STI Prevention and Control Unit, Savannakhet Province (PCCA). Activities are designed for special groups such as FSWs, blood donors, migrant workers, and those requesting anonymous tests. The services include VCT for HIV, BCC, advocacy for condom use, condom distribution, and RTI/STI treatment. The centre also provides treatment services at district hospitals along Road 9 involving physicians from gynaecology-obstetric wards in order to achieve better coverage of services for FSWs as well as for the general population. Mamasans are also involved in promotion of FSW health since they are the first point of contact for guests who want to have a sexual partner and are the most influential persons as they provide business arrangement for sex workers and take 20-30 per cent of the sex workers' income per one client. In the target districts mamasans are involved in order to provide health information

and support FSWs to have regular check-ups for STIs and timely visits to a health facility when ill. In 2008, this had increased to 82 entertainment places and about 450 FSWs. According to the PCCA, there are only venue-based FSWs in Savannakhet province [135].

3.2 Overall study design and participants

In order to properly respond to all study objectives, a combination of quantitative and qualitative methods was used. To assess HCPs' knowledge about STIs and their attitudes toward FSWs with STI symptoms (study I) and care seeking behaviour and barriers to accessing services for STIs among FSWs (study III), two cross-sectional surveys with face-to-face interviews using closed and open-ended questions were performed. To explore perceptions of health and illness (study II) and risk perceptions and working situation (study IV) focus group discussions (FGDs) and in-depth interviews were employed (Figure 3). We also conducted participant observations to complement the qualitative studies.

3.2.1 Studies using quantitative methods

Design and participants in study I and III

Both studies I and III were carried out in six districts located along Road 9 in Savannakhet province. In study I, the study participants were HCPs from the public and private health sectors providing RTI/STI services. The public HCPs included medical doctors, medical assistants, nurses and midwives. The private HCPs included private pharmacists, drug sellers and herbalists. In study III, FSWs working in the entertainment places in the six districts located along Road 9 at the time of the interview were recruited.

We employed six research assistants (RAs) with nonmedical backgrounds in study I, one from each study district. In study III, six female RAs with backgrounds in social science and experience from a previous health behaviour survey from Lao Youth Union, Savannakhet province were recruited. The RAs were trained for three days on the aim of the study, review of data collection procedures, and ethical issues.

Data collection and procedures

Questionnaires

The questionnaires in study I and III were developed by the research team members (2 medical doctors, 1 social scientist, and 1 midwife and public health specialist) but also shared with the local RAs. The survey questionnaires in both studies had closed and open-ended questions but statements in a Likert format were also used to measure HCPs' attitudes towards FSWs with RTI/STI symptoms in study I. The questionnaires in both study I and III were translated into Laotian and pilot tested in a district not included in the main study area in order to ensure that the questions were acceptable, linguistically correct, and time efficient.

In study I, we conducted a group discussion with 13 HCPs after the pilot interviews to validate and further develop the questionnaire. The pilot study of study III was carried out with 21 FSWs and minor modifications of the questionnaire were made after the

pilot study. These pilot results were shared with the research team. The results from the two pilot studies are not included in the analysis.

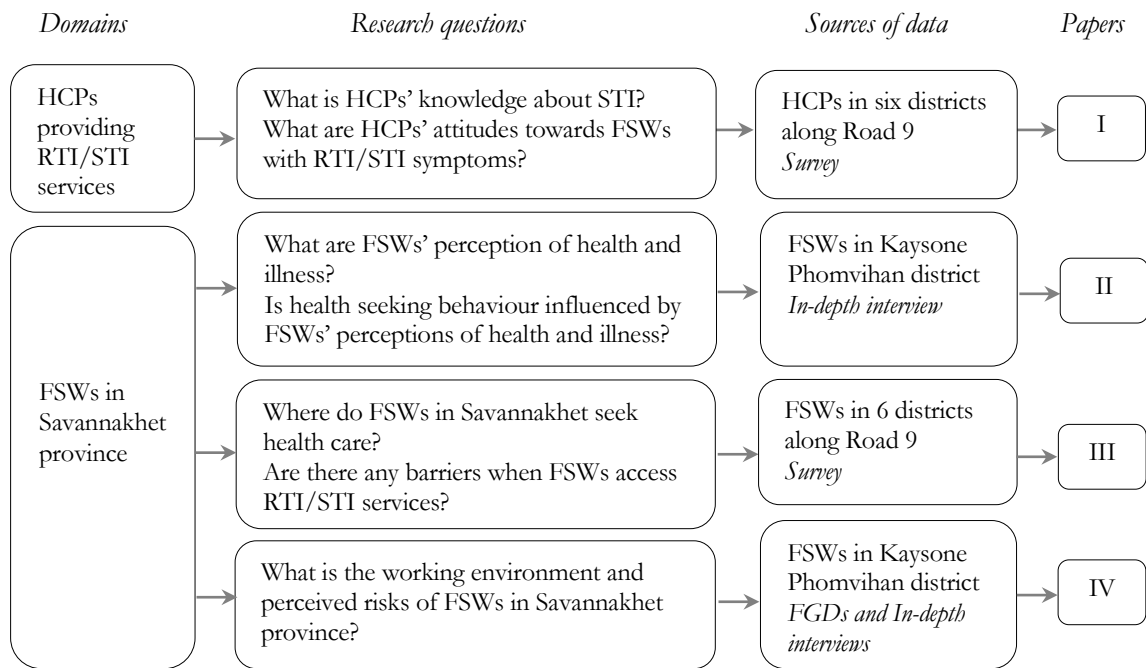


Figure 3: Domains, research questions, sources of data and papers.

Mapping procedures for survey sampling

Before data collection started, the local stakeholders and provincial health officers in the study setting were contacted in order to discuss the feasibility of the research. Information about the number of HCPs from public or private health facilities, the type of entertainment places in the area, and the number of FSWs in those entertainment places were obtained from PCCA in Savannakhet province in order to estimate number of potential participants. A mapping procedure to identify HCPs (study I) and FSWs (study III) were carried out by RAs together with the first author (KP) before data collection started. We visited the six districts along Road 9 in the study area. Addresses and names of HCPs in charge of RTI/STI treatment services at district hospitals, health centers, private clinics, and pharmacies as well as herbalists were listed. In addition, names of FSWs in the listed entertainment places were obtained.

Data collection

The first author (KP), who is Laotian, and who knows the language and the social context of the study setting, supervised the RAs during the data collection. Data collection for study I was performed from May to June 2008. Face-to-face structured interviews were conducted with HCPs in their workplaces such as district hospitals, health centers, private clinics, pharmacies, or in their homes (for herbalists). Those off duty were interviewed the following day. Overall, 251 eligible HCPs were approached and invited to participate in the study; seven did not participate because of time constraints after being visited twice. Data collection for study III was carried out from January to March 2010 in a place where the FSWs felt relaxed and confident to openly

discuss the interview questions. The participants mostly chose a private area close to their work place. In total, 456 FSWs from 76 entertainment places were identified in the six districts during the mapping procedure, which was much higher than the official estimated of 450 FSWs and 82 entertainment places in the whole province (15 districts) in 2008. On the day of the interview 33 of the identified FSWs were not available. In addition, seven declined to participate and nine first accepted to be interviewed but later refused to complete the interview without giving any reason. The interviews of study I and III were conducted in Laotian and lasted between 35 and 40 minutes.

3.2.2 Studies using qualitative methods

- Participant observations

In order to understand the everyday life of the FSWs in our study context, which could not be obtained by the interviewing alone [137], we conducted participant observations. Participant observations, a common ethnographic method, involve researchers observing behaviours in an unobtrusive, but also open, manner. Informal discussions may also take place. Researchers do not take notes while observing; they write them down after returning from the field every day. Peer educators and the female interviewer conducted day-time participant observations of the overall context in beer bars where FSWs worked and lived in Kaysone Phomvihian district. KP spent evenings observing women and their working situation in two nightclubs. Overall, we spent about two weeks-day and nights – carrying out the field observations. The observations were conducted in June 2008 before data collection in study II and ended when there was no new information added to the field notes.

The aim of the participant observations was to observe 1) the working patterns of the FSWs in beer bars and nightclubs, working time and services and interaction with guests in bars and nightclubs and 2) their working environment such how and where the FSWs lived and slept when not working. They also served to create rapport and to identify potential women to be interviewed. Informal discussions with the observed sex workers and mamasans or people in the observed settings were also conducted in order to expand our understanding about the context.

In order to enrich the findings of the participant observations, KP and the female interviewer also discussed with the peer educators who used to work as FSWs in the observed settings. The information from these discussions was added in the results of the participant observations in order to provide more information about the context.

Design and participants in studies II and IV

A qualitative approach with in-depth interviews was employed in studies II and IV to explore FSWs' perceptions of health and ill-health (II) [137], working environment, and perceived risks (IV). In study IV, FGDs were also used [138]. Both studies were carried out in Kaysone Phomvihian, the main district of Savannakhet province. The research team consisted of two Swedish researchers; a midwife and a social scientist, both specialists in international public health research, specifically sexual and reproductive health aspects and research with sex workers in other settings, and two Lao researchers, both with a medical

specialty and experiences from health behaviour studies among high-risk populations such as FSWs and MSM. In addition, two peer educators from the drop-in centre who knew the study context and who had previously worked as sex workers were recruited. Finally a female interviewer with a background in social sciences was also involved throughout the two studies.

Data collection and procedures

Interview and discussion guides

Two RAs were trained on how to perform qualitative interviews and moderate group discussions before data collection started in study II and IV. The training was led by KP for study II and by KP and one of the Swedish researchers (EF) for study IV. The research team members developed the interview and discussion guides. In study II, the women were asked to describe what being healthy and ill-health meant to them, and what they believed signified good and bad health. In study IV, the interview guide had questions related to general background of the informants, their views about their working situation and connected risks, and how they coped with their situation. The FGD guide included questions about the women's views about their work, perceived risks related to their work, perceptions about how other people look upon FSWs and their work, how to be accepted by the community, and how and where to find support.

In order to test the procedures and the interview guide in study II, three pilot interviews were conducted by the trained female interviewer. In study IV, KP and the female interviewer conducted one in-depth interview and one FGD each in order to test the interview and the FGD guide, and the procedures for sampling and data collection. The pre-test results from both studies were shared and discussed with the research team. Some questions in the guide were revised in order to ensure that the guide was suitable and the words used were not too sensitive. The results from the pilot study of study IV are included in the analysis.

Data collection

In study II, the female interviewer and her assistant visited entertainment places in Kaysone Phomvihan. Women who were presently working as sex workers and who reported ill-health including a sexual and reproductive health problem at the time of the interview were invited for an in-depth interview. In study IV, the women who self-reported selling sex and who were willing to participate in a FGD and to be interviewed were recruited. In both studies II and IV, eligible women were purposively selected in order to achieve a sample with maximum variation regarding age, marital status, duration of sex work, and type of work place. In study II, twenty-one sex workers accepted to be interviewed but after appointments were made, three could not participate due to time constraints, one shifted accommodation without giving contact information, and two women later declined to be interviewed because their boyfriend objected. The remaining fifteen women were interviewed. The interviews were carried out in a location convenient for the women where a conversation could be held in privacy, mostly in their work and living places. In study IV, the FGDs and in-depth interviews were carried out in a private room arranged by the research team. In all, five FGDs with 39 women and seven in-depth

interviews were conducted. In study II, data collection was conducted from July to August 2008 while data collection in study IV was conducted between March and April 2010. In both studies, the interviews and FGDs were carried out in Laotian and lasted from 45 to 90 minutes. They were tape-recorded and notes were also taken. Table 4 displays a summary of papers, method and analysis, and data collection.

Table 4: Summary of papers, method and analysis, and data collection

Papers	Data collection methods	Analysis methods
HCPs' knowledge about STIs and attitudes toward FSWs with STI symptoms (<i>study I</i>)	244 HCPs survey Face-to-face interviews <i>May-June 2008</i>	Descriptive analysis & chi-square test
Perceptions of health and illness among FSWs (<i>study II</i>)	15 FSWs in-depth interviews Tape recordings and notes <i>July-August 2008</i>	Latent content analysis
Care seeking behaviour and barriers to accessing services regarding RTI/STI (<i>study III</i>)	407 FSWs survey Face-to-face interviews <i>January-March 2010</i>	Descriptive & Multiple logistic regression analysis
Risk, benefits and survival strategies among FSWs (<i>study IV</i>)	5 FGDs with 39 women and 7 in-depth interviews Tape recordings and notes <i>March-April 2010</i>	Latent content analysis

3.3. Data management and analysis

3.3.1 Quantitative data analysis

Data were double entered into EpiData v.3.0 [139] and consistency checks were run to inspect the validity of the two data sets in both studies I and III. Incorrect entries were examined and verified against the original forms. The main data sets were cleaned by running basic descriptive statistics such as frequency, percentage, standard deviation, minimum and maximum in order to examine outliers and distribution plots were run for continuous variables to display tendency of the data [140]. All continuous variables such as “HCPs’ age”, “duration in STI service” and “duration of sex work” were summarized but later generated and presented in categorical manner. Some dichotomous variables where responses were presented in form of “Yes=1” and “No=2” were tabulated. Data analysis for studies I and III was processed in STATA v.10 [141].

In study I, the outcome variables were respondents’ knowledge about STIs and their attitudes toward FSWs with STI symptoms. Data were analyzed and presented with descriptive statistics. According to the results from the pilot test, the attitudes statements were revised. Three out of 11 statements were dropped because of their content and low correlation with the other statements, leaving 8 statements for inclusion in the analysis.

During the preliminary analysis, in order to assess correlation among attitudes statements, Kendall’s tau (b) correlation was applied for the eleven positively or negatively phrased statements. The score of the negative statements were reversed in order to have the same direction as the other statements. Based on Kendall’s tau (b) value, five positive statements were dropped due to their low correlation with the other statements (Kendall’s tau value ≥ 0.7), leaving six statements for inclusion in the index (Figure 4). Factor analysis was also

performed, generating the same result. However, the result from Kendall's tau (b) correlation analysis was not included in the final analyses because we felt that the content of the statements was more important to retain. The statements included in the analysis were based on the pilot results.

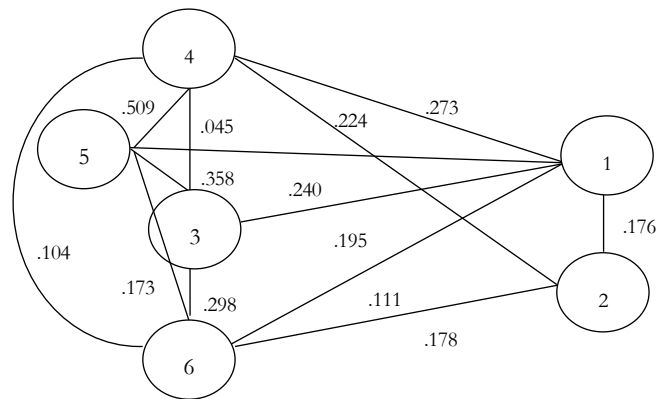


Figure 4: Association graph based on Kendall's tau (b) correlation

In addition, the 5 response choices were changed to 4 after the pilot interviews in order to get a clear understanding of respondents' attitudes to each statement: the middle choice "uncertain" was dropped from the questionnaire. In the analysis the 6 negatively worded statements were reversed in their scoring. Due to the paucity of responses on the "strongly disagree" choice, the responses were reduced to a 3-point format: strongly agree (4), moderately agree (3), and disagree (2) for the analysis. When adding the scores of all 8 statements, the lowest possible score was 16 and the highest possible score was 32. The cut-off point between positive and negative attitudes was set as the median (=25), with ≤ 25 indicating a negative attitude and > 25 indicating a positive attitude toward FSWs with STI symptoms. In study III, the outcome measure care seeking behaviour was analyzed and presented with basic descriptive statistics. The responses from the open-ended questions, barriers in accessing healthcare services, were coded and grouped into categories according to content (barriers for those who had and had not sought care).

Chi-square and logistic regression analysis

Pearson Chi-square test or Fisher's exact test were used to test relationships between background characteristics of the respondents and attitudes toward FSWs with STI symptoms in study I. In study III, multivariate logistic regression analysis was applied to identify associations between care seeking behaviour as the dependent variable (seeking or not seeking care) and respondent's characteristics as the independent variables (age group, education, monthly income, place of work, and duration of sex work). Odds ratios [OR] with 95% confidence intervals (95% CI) were used to measure associations. A p-value of 0.05 or less was considered as indicating a statistically significant association in both studies I and III.

3.3.2 Qualitative data analysis

In-depth interviews and FGDs

In study II the tapes were transcribed verbatim and then translated into English, and two interviews and one FGD from study IV were translated into English and shared with the English-speaking research team members. The transcripts from studies II and IV were analyzed using latent content analysis. Latent content analysis is a stepwise analytical process, which focuses on description and interpretation of underlying meanings of the texts [142]. KP initiated the analysis in both studies by reading the transcripts several times in order to obtain a general impression of the data.

In study II, coding was done separately by KP and one of the supervisors (EF). The results of the coding were compared and differences were discussed until we reached an agreement. The main theme that emerged during the analysis process was 'health is wealth and wealth is health'. The participants' responses regarding health and ill-health were grouped under two sub-themes that illustrated the perceptions of FSWs: 'health is necessary for work and income' and 'ill-health creates social and economic vulnerability'.

In study IV, KP did the main coding and one of the supervisors (ST) read the interviews and FGDs that were translated to English and performed coding. During this process KP and ST discussed the codes, compared and generated subcategories. The different subcategories that derived from the analysis were discussed until consensus was reached. The results revealed that the FSWs were aware of risks but also recognized benefits related to their work. The risks were grouped into STIs/HIV, unintended pregnancy, violence, stigma, being cheated, and social and economic insecurity. The benefits mentioned were: financial security, fulfilling social obligations and sexual pleasure. The FSWs also reported using a number of strategies to reduce risks and increase benefits. During analysis of study II and IV, the research team members discussed the procedures and the findings until they agreed on categories and themes that emerged from the data.

3.4 Ethical considerations

The studies complied with the ethical principles for Medical Research Involving Human Subjects [143]. The studies were granted by the Regional Ethics Committee in Stockholm, Sweden (Ref. 2008/970-31/3; 2008/1853-31/5), National Ethics Committee for Health Research, Ministry of Health, Laos (Ref.176/NECHR), and the local authority where the studies were carried out. No written consent was obtained, reflecting the sensitive nature of sex work and the risk that the informants would fear sanctions since their work is illegal [128]. Verbal consent was sought from each participant and they were assured that discussions were kept confidential [144]. They were also informed that their participation was voluntary and that they could withdraw from the interview or discussion at any time they wanted without consequences. In the in-depth interviews and FGDs, the moderators asked permission to tape-record. Given the sensitive nature of the issue, the risk of stigmatization and discrimination and that neither sex work nor STI and HIV are openly discussed in Laos, counselling was made available to participants (FSWs) when needed. The research team also established links to counselors (the drop-in center) in order to help participants who might experience stress or social isolation from being interviewed.

4. RESULTS

4.1 HCPs' knowledge about STI and attitudes towards FSWs (I)

HCPs' knowledge about STI (I)

The median age of HCPs was 43 years. About two-thirds were women. Fifty-four percent had no STI training despite providing STI treatment. HCPs reported limited knowledge about STI causes, transmission routes, and symptoms. Less than half of all HCPs mentioned bacteria as a cause of STIs. The belief that bad hygiene/sharing toilets can cause STIs was commonly reported among herbalists, but was also mentioned by other types of HCPs. About two-thirds of herbalists and one-fourth of nurses/midwives said that bad hygiene/sharing toilets were transmission routes of STIs. HCPs also had inadequate knowledge about abnormal genital conditions that are considered STI related symptoms.

Attitudes toward FSWs with RTI/STI symptoms (I)

The attitudes differed neither between male and female respondents nor between those who had or had not received STI training. Table 5 shows HCPs' attitudes towards FSWs with RTI/STI symptoms. More than two-thirds of HCPs moderately or strongly agreed that FSWs are a risk to other people's lives. Almost 70 per cent of medical doctors and nurses/midwives as well as pharmacists/drug sellers moderately or strongly agreed that FSWs with RTI/STI symptoms are unacceptable in society, whereas about half of herbalists moderately or strongly agreed with the statement. There was, however, a high proportion of all types of HCPs who moderately or strongly agreed that FSWs with RTI/STI symptoms should be treated with respect, and that FSWs are not different from other women. These different views thus indicate HCPs' ambivalence regarding FSWs with RTI/STI symptoms.

Different professions' attitudes toward FSWs with RTI/STI symptoms are shown in figure 5. The total score of attitudes toward FSWs with RTI/STI symptoms ranged from 19 to 30. When the total score for the eight statements was assessed using the median (25) as the cut-off point, the highest proportion of respondents with negative attitudes was found among pharmacists/drug sellers (68%), followed by medical doctors (59%) and nurses/midwives (55%). The proportion of herbalists with negative attitudes (53%) was less in comparison with the other professionals. The differences between the professions were, however, not statistically significant.

Table 5: Responses to attitude statements among respondents (n=244)

Attitude statements	Medical doctors n=27	Nurse/ midwives n=102	Pharmacists/ drug sellers n=68	Herbalists n=47
I think FSWs with STI symptoms are a risk to other people's lives				
<i>Strongly agree %</i>	3.7	6.9	17.7	27.7
<i>Moderately agree %</i>	77.8	70.6	57.4	63.8
<i>*Disagree %</i>	18.5	22.6	25.0	8.51
I think FSWs with STI symptoms are unacceptable in society				
<i>Strongly agree %</i>	7.4	5.9	5.9	6.4
<i>Moderately agree %</i>	63.0	63.7	64.7	44.7
<i>Disagree %</i>	29.6	30.4	29.4	48.9
FSWs with STI symptoms don't tell the truth about STIs symptoms				
<i>Strongly agree %</i>	7.4	7.9	5.9	4.3
<i>Moderately agree %</i>	59.3	55.9	66.2	51.1
<i>Disagree %</i>	33.3	36.2	27.9	44.7
I think FSWs with STI symptoms pay less attention to STIs symptoms				
<i>Strongly agree %</i>	7.4	5.9	2.9	10.6
<i>Moderately agree %</i>	74.1	76.4	76.5	63.8
<i>Disagree %</i>	18.5	17.7	20.6	25.5
I think FSWs with STI symptoms do not follow treatment advice regarding STIs symptoms				
<i>Strongly agree %</i>	0.0	5.9	2.9	12.8
<i>Moderately agree %</i>	74.1	65.7	66.2	53.2
<i>Disagree %</i>	25.9	28.4	30.9	34.0
No matter how much FSWs with STI symptoms are counseled, they will continue to infect others				
<i>Strongly agree %</i>	3.6	4.9	1.5	2.1
<i>Moderately agree %</i>	48.2	44.1	57.4	55.3
<i>Disagree %</i>	48.2	51.0	41.2	42.6
FSWs with STI symptoms are not different from other women				
<i>Strongly agree %</i>	14.8	8.8	2.9	10.6
<i>Moderately agree %</i>	66.7	74.5	66.2	40.4
<i>Disagree %</i>	18.5	16.7	30.9	48.9
I think FSWs with STI symptoms should be treated with respect				
<i>Strongly agree %</i>	22.2	12.8	4.4	6.4
<i>Moderately agree %</i>	74.1	84.3	91.2	78.7
<i>Disagree %</i>	3.7	2.9	4.4	14.9

* *Disagree* includes "moderately disagree and strongly disagree" which had few responses

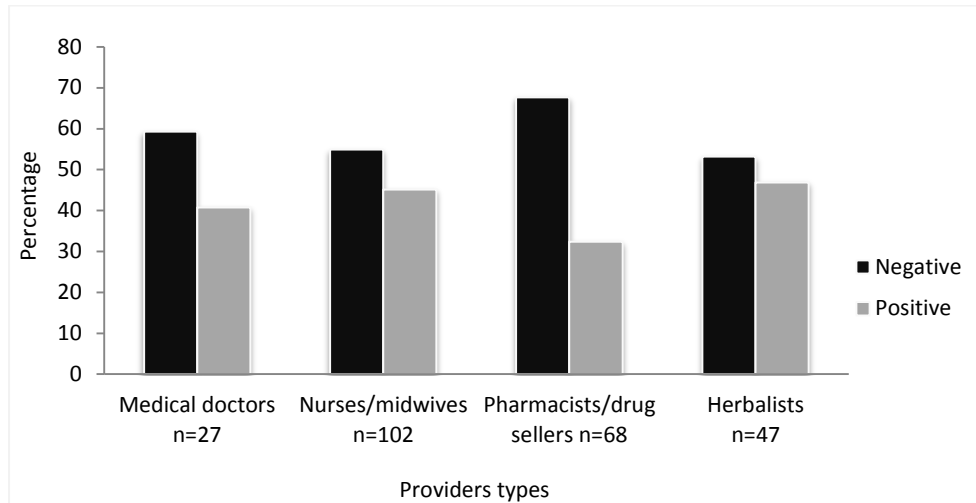


Figure 5: Attitudes toward FSWs with STIs symptoms among different types of HCPs (n=244)

4.2 Care seeking behaviour and barriers to accessing STI services (III)

Reproductive tract conditions and care seeking behaviour (III)

The majority of the FSWs (86.7%) reported having RTI/STI symptoms in the past three months. About two-thirds of the respondents had sought care for these symptoms in the past three months, whereas one third had not. Of those respondents who had sought care, 58 per cent delayed less than one week while 19 per cent delayed more than two weeks. The mean time of delay from onset of symptom to first visit to a healthcare agency was ten days. Of those who reported one or more current RTI/STI symptoms, the majority (76%) reported having abnormal discharge, followed by lower abdominal pain (56%), and genital itching (51%).

About two-thirds of the FSWs had sought care for their genital symptoms in the past three months. FSWs who had sought care reported using a range of different healthcare agencies (Figure 6). About 53 per cent had visited the drop-in centre, 24 per cent had sought care from a public hospital and respectively 9 and 12 per cent had used services from private pharmacies/drugstores and private clinics. Seeking care from an herbalist was uncommon.

Barriers to and perceptions about RTI/STI services (III)

Figure 7 shows barriers mentioned by FSWs who reported RTI/STI symptoms but had not sought care. The main barrier expressed was inconvenient location of the clinic (50%), whereas one-fourth said they did not know where they could get the service needed, and one-fifth mentioned long waiting times at the clinic. Lack of money and lack of time to visit the clinic were also reported in a similar proportion. Participants who had worked as sex workers for one year or more were more likely to seek treatment compared to those who were new in sex work (OR: 2.6; 95%CI: 1.52-5.36; p -value=001).

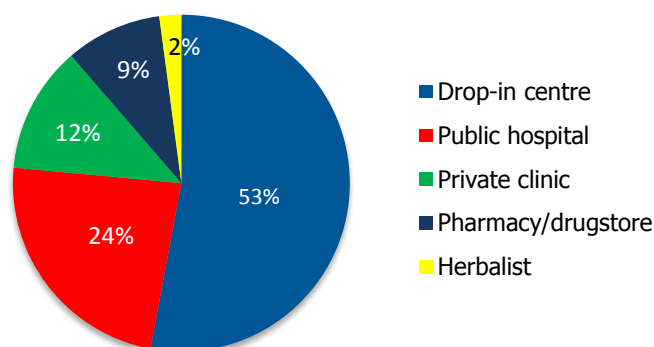


Figure 6: Source of treatment for RTI/STI symptoms (n=353)

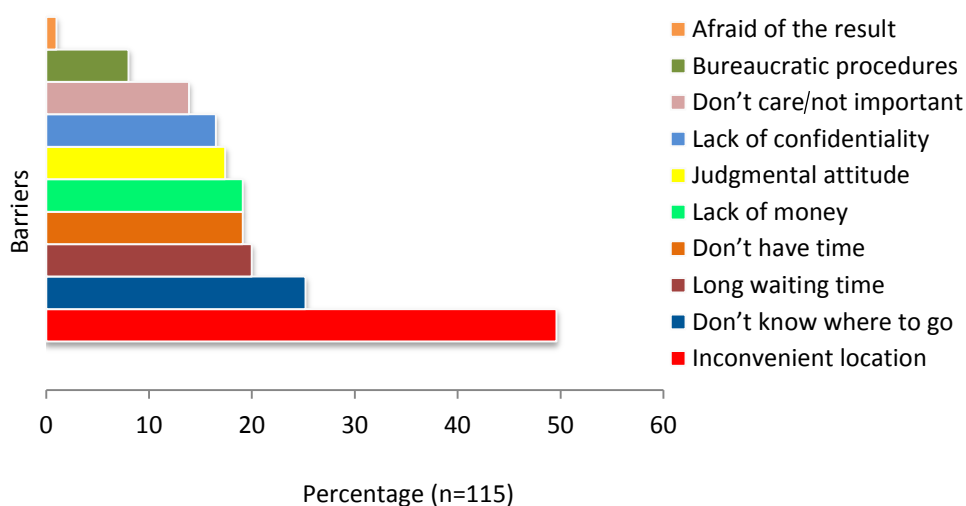


Figure 7: Barriers mentioned by FSWs who reported symptoms of RTI/STI but had not sought care.

- Results from participant observations (not included in the papers)

Below we describe FSWs' work environments and work situations as found during participant observations and informal conversations carried out during the observations.

Sex workers' working patterns in beer bar

We found that beer bars or 'drinksops' in Savannakhet were small in terms of business size and structure, and had between two and five hostesses, or "service women," who attended to the guests as they drank. In general, the beer bars had three to five tables with chairs or small sofas around them. These tables were located in many small huts or on one floor but separated by curtains. We were told by the mamasans that the young women who were employed in beer bars had migrated from rural areas outside Savannakhet province or from Northern provinces of Laos. Some young women said they had left factory work as they saw that working in bars was easy and provided good income. Some girls said that friends who already worked in the bar had introduced them into the work. The peers (RAs involved in our research project who used to work as

FSWs) told us about how the bar owners mamasans recruited young girls. They asked the service women who worked in their bar to ask more girls to come, often targeting young rural women.

In the beer bars, service women usually worked from afternoon until midnight but we found that many mamasans provided services at any time, including in the mornings, when guests visited the bar. Guests often came in groups of at least two or more to drink beer. The guests could then ask the women to join them as they drank. The guests could then embrace, hug or kiss her but they had to pay the bar owners or mamasans about 50.000 kip/hour (equivalent to 7 US\$). The women attended, served and encouraged the guests to drink alcohol (usually beer) rapidly and in large quantities. The women themselves also drank along with the guests. Some of the women said that they rarely got drunk because they emptied their glasses onto the floor. The service women said that the large quantities of beer consumed meant more money and that the bar owner or mamasan paid at least 15 per cent of the total beer cost for the women who attended guest.

The peers told us that during this engagement the guest could negotiate sex with the women. An agreement could then be made between the women and guest such as service type, time length and payment (the pay varied between 20 and 70 US\$ excluding a room fee of about 15 US\$). The women could entertain a guest for a short period or stay overnight. In many cases, the guests asked the women to join them outside the bars such as in hotels or guesthouse. Some service women told us that most guests conclude their drinking by having sex with a service woman, and that it was very rare that guests just came for drinking.

Sex workers' working patterns in nightclubs

KP spent evenings observing two nightclubs in Kaysone Phomvihan. Nightclubs, which open at 9 pm and close at 11:30 pm, differ in business size and atmosphere compared to beer bars. I was told from the peers that nightclubs and karaoke bars require young, beautiful and experienced women to approach guests. One sex worker said that many women wish to work in nightclubs because of better pay compared to the pay in beer bars. Our discussion with a mamasan indicated that service women often try to move to a larger nightclub after working in a beer bar for a period of time. The chance to meet guests who have higher status and more money is better in nightclubs. One of the nightclubs where I did observations seemed to be designed for the young, urban population. The music – a mixture of modern Lao, Thai and international pop songs – was loud and inside the club young people were standing, drinking and dancing. In another nightclub, which had Lao and international classy music and more luxurious services with expensive whisky or wines and where a VIP room was available, middle-aged men seemed to be more common guests. The peers told me that the nightclubs have many services women (between 40 and 70), especially in popular venues. In the two nightclubs that I observed, guests were drinking while touching, embracing, kissing and conversing with the women. The women also encouraged the guests to drink and dance, embracing them closely.

Sex workers' living and accommodation

Most of the sex workers who worked in beer bars that we visited lived in poor housing such as small wooden cabinets attached to their work place. The accommodation was provided by the bar owners but usually lacked amenities such as a fan, a refrigerator, cooking equipment and had poor hygienic facilities. Although the women could access clean water and toilets, they had limited access to electricity because the bar owners refused to pay for it. Sex workers told us that the mamasan did not allow them to cook but recommended they buy instant food. The women lived together with many fellow friends so the rooms were crowded. "The room was untidy with some cabbages on the floor and many clothes hanging on the wall. The table in the kitchen was covered in unclean dishes, the bathroom and toilet was improperly managed during the time of visiting, which revealed bad living conditions and poor hygiene" (field worker observation). Poor living accommodations made sleeping difficult, and the women said they were tired when they got up. A young woman described her living condition below:

"I live in a small room with many friends who work in this bar. It is a completely uncomfortable and untidy bedroom. This room is hot with no ventilation. Only the ceiling fan as you can see! I cannot sleep as long as I need..." (25 year, Beer bar FSW).

During the observations, a dialogue with a mamasan indicated that she did not want to provide stable accommodation for the women because of their high mobility. Even though some of the mamasans said they would like to support good and stable accommodation for the women they claimed that they did not do so because it would cost too much. One bar owner described:

"We benefit financially from selling beer, snacks and small sums paid by the women from having sex with clients, and that is usually not enough to provide good living facilities for them" (A beer bar owner, aged 39).

Some women working in nightclubs that we visited rented a room outside their work place. Their accommodation was better than that of those employed in beer bars. Some women said that they shared the rent for a room outside the work place where they could keep their belongings and sleep during the day.

4.3 Perceptions of health and ill-health (II, IV)

Perceptions and significance of health for FSWs (II, IV)

Almost all interviewed sex workers said that good health meant physical fitness and that good health is necessary for a sex worker (II). The women perceived health as the absence of disease, especially being free from STIs. Some understood that health was a combination of several aspects such as being able to eat, sleep, and sell sex. The women's accounts also indicated that health was necessary for income and increased their ability to support their families (II, IV) as good health allowed them to be able to work for long hours:

"Good health means that you can work and work better than people who are not healthy, you can make a good income" [27 year, beer bar and nightclub FSW].

The sex workers interpreted health in relation to their body image. Many perceived that good health was related to looking young and beautiful, which made the sex worker sexually attractive. It was considered important to show one's health status as having no diseases, being clean and thus meet "clients demand" (II).

"I think that when I am healthy, clients will see my fresh face, and then they will want me to sit and serve beer for them. Clients like healthy and beautiful girls; they get satisfied and will ask me to go out for sex" [25 year, beer bar FSW].

Perceptions of ill-health and its negative outcomes (II, IV)

Sex workers defined ill-health as having abnormal signs or symptoms appearing in their body. They believed that a disease could present itself through a feeling or an observable sign such as an STI (II). Some did not understand what ill-health meant but they knew about diseases or health problems, such as headache, fever or having vaginal discharge because of what the doctor had told them when they visited a health centre. Ill-health causing social and economic insecurity was a major concern among the sex workers. They indicated that financial problems imposed mental and emotional distress because of less resources and ability to support their families. This was clearly evident in both studies (II, IV). The sex workers reported that being sick was a catastrophe, both because they would get lower income, and because of the risk that their working contract would be terminated by their employer in order to avoid their business getting a bad reputation.

"When sick, I could not work and have sex with clients. The bar owner asked me to stop working. I wanted to move to another bar but that was not possible because the bar owners would not accept me, they would not accept a sick woman" [24 year, beer bar and restaurant FSW].

Information from in-depth interviews (II, IV) and FGDs (IV) highlighted sex workers' fear of disclosure about their health status or their profession, e.g. being identified by relatives while working and meeting people who they knew. Feelings of shame and low self-value were frequently reported when ill because people in the villages disapproved of women returning to the village in poor health and often associated ill-health in women with having a bad job "selling sex" (II, IV). Ill-health also created barriers to socializing and this made sex workers reluctant to go home when ill because of the need to avoid public insult or embarrassment (II, IV). One of the interviewed women explained:

"When sick I do not go home, because I am afraid that my parents and people in the village where I live will know what happened to me" [24 year, beer bar and restaurant FSW].

FSW's obligations towards the family and benefits of sex work (II, IV)

The overarching themes emerging from studies II and IV were social obligations and benefits of sex work. The obligation towards the family was important. The FSWs said that they had followed friends who worked as service women in the entertainment places in order to find an alternative way to make a living (IV). They wanted to send money to their families to pay the family's debts, pay for siblings' school fees (II), or take responsibility for parents' expenses (IV). Some FSWs had left home as they realized that wet rice farming would not allow them to support their families and might not give enough income for their future. The women wanted to work in order to contribute to the

family's livelihood. Being able to support the family made them proud and gave them social value (II, IV), despite the fact that selling sex is highly stigmatized in Lao society. Many described that being a daughter requires obedience and sacrifice to the family's demands:

"Parents raise us since we were born, they dedicated a lot already. When they were sick it was hard for them to pay for health care. As a daughter, we cannot dare to see them suffer. It is time to work for them now" [22-31 years old FSW in FGD3].

The desire to support their families and social and culture expectations on women and daughters influenced care-seeking behaviour (II). Sex workers' accounts indicated that although their income was high it was unstable, and many needed to reserve a portion of their income to support their families. Meeting one's family's needs could hinder care seeking when sick.

"Many girls who work in this bar do not have enough money when sick because they contribute their income to support their family. Of course, your parents and people in the village will be proud of the support... If they used all the money for healthcare then the family will be in trouble" [26 year, beer bar sex worker FSW].

Yet, the benefits of sex work mentioned by participants were not only being able to support their families and getting self-value, social status, and decreasing social negative perception (II, IV) but also gave sexual pleasure (IV).

"Most of the time I select clients not only because of money but because they are both good looking and have good money. I like a good looking and clean one, it makes really great when having sex" [18 year, nightclub FSW].

The sex workers perceived their work as an opportunity not only for supporting their family and experiencing sexual pleasure but also gave the women potential future social worth, despite the stigma they experienced in the present.

"I think that whatever they say to insult us, one day in the future they will praise us if we do good things for our family" [31 year, beer bar and restaurant FSW].

The women also indicated that they had different strategies to increase these benefits such as accepting sex without a condom or alternative sex acts (oral and anal sex) to get more pay. Some explained that men want to visit sex workers because sex at home is not pleasurable and being nice to clients will give more benefits. One young woman applied this concept at first encounter with clients in the following way:

"When clients visit, I said Sabaidee 'hello sir' while smiling, I immediately invite them for a seat. I serve a glass of cold water first, talk to them softly and show my respect throughout the service. It doesn't matter if I go for sex but in the end I usually have a very good tip" [19 year, beer bar and karaoke bar FSW].

4.4 Sex workers' work environment, risks and survival strategies (IV)

The sex workers told us about their working situations, including their perceived risks. These were risk of STI/HIV, unintended pregnancy, violence, stigma, being cheated by clients, and social and economic insecurity.

Risks of STIs and HIV, unintended pregnancy and strategies to reduce these risks varied among the sex workers. They said that risks of STIs/HIV and unintended pregnancy were difficult to manage. Almost all interviewed sex workers explained that although they wanted clients to use a condom they did not always succeed. They also reported that some clients forced them to have sex or took off the condom during the sexual act. Some women said they checked the date of expiry on the condom and double-checked that the condom was still in place during the transaction. Some participants agreed that a condom can prevent STI/HIV but when having sex with a boyfriend it was not possible to use a condom, which increased the risk of pregnancy. The sex workers' primary strategy to avoid pregnancy was to use another contraceptive method in addition to a condom.

"Condoms can prevent STIs/HIV, but not a pregnancy. If I use both condoms and oral contraceptive pills it is safer. This way, when the condom is ruptured the pill still protects me from an unwanted pregnancy" [24 year, beer bar and nightclub FSW].

Violence and being cheated and strategies to avoid these risks were commonly expressed by participants. These risks were, however, hard to avoid. The FSWs considered that such risks were part of their work. Some participants described experiences with harsh or drunk clients, which increased the risk of physical assault or being cheated. Physical violence often occurred when clients were unsatisfied with the service and when the woman did not follow the client's demands such as refusing to perform oral or anal sex:

"He was very angry; he grabbed my hair while pulling my head to his cock and said 'Do it for me now... suck it now!'" [22-30 years old FSW in FGD4].

The interviewed sex workers reported several tactics to avoid violence and being cheated by customers. Some spent time observing clients during drinking and checked references with friends and discussed the type of service, the price and the length of the service with the client before the agreement was made and asked the client to pay up-front. Some asked the clients to visit a convenient place where a security guard who could easily be asked for help was available. Others mentioned bringing a cell phone when they went outside with a client since it could be used if help was needed. Below one woman described how she avoided violence:

"The agreement time had elapsed but he did not finish. Giving up the sex could have led to me being beaten. The best was to continue the sex; do what the client wants as quickly as possible and keep quiet till he is finished" [19 year, beer bar and karaoke bar FSW].

Stigma and social and economic insecurity and strategies to decrease them were extensively discussed both in FGDs and interviews. Stigma was one of the major risks in participants' work environment that was commonly reported. The women said that their work was illegal and stigmatized. Fear of one's profession being disclosed and worries about the impact of their work were common as this could affect the reputation of their parents and families. Findings from studies II and IV highlight the strong relationship between ill-health (II) and stigma and economic insecurity (IV). Sex workers' lives and futures were influenced by social stigma. This was evident in participants' accounts as many said that they did not form love relations with men because of worries about the impact of their work on a love relationship. Such concerns caused uncertainty and also made women leave

love relationships when risking to be disclosed. One woman described how her social image could stop her from marrying:

“I am not really sure if we are going to marry. I am afraid that if my in-laws and husband find out about my work then they will say ‘how dare you step your foot into my house?’” [24 year, beer bar and nightclub FSW].

Some women argued that although selling sex was perceived bad, if a sex worker turned out to be good then people would approve of her. On the other hand, many said that having money and wearing expensive clothes was also an effective method to reduce stigma because money could show her efforts and give social status. Another tactic recommended to avoid being judged was to participate in village activities when going home because it helped to show the women’s solidarity and respect of the traditional culture, which could reduce negative perception.

5. Discussion

5.1 HCPs’ knowledge about STIs and attitudes toward FSWs (I)

HCPs’ knowledge about STI (I)

In study I, HCPs reported limited knowledge about STIs. Misperceptions of STI causes, transmission routes, and symptoms were common among respondents. This implies that training in management of STI among HCPs is lacking. Our findings are consistent with results from a previous study conducted by Sihavong and co-workers [134], who found that health providers in Laos, particularly drug sellers, had limited knowledge and practice competence regarding management of STIs. HCPs play a crucial role in management of STIs [21]. Limited knowledge can lead to incorrect diagnosis and treatment, which will contribute to prolongation of infectivity, increased drug resistance, and further transmission of STIs [2, 145]. We also found that more than half of the interviewed HCPs had no STI training despite providing STI treatment. Lack of qualified staff, laboratory facilities and financial resources are recognized obstacles to effective STI measurement and management [81, 146]. Therefore, there is need to provide training in STI management for HCPs in this specific setting. Such training should be consistently established and need to include health workers both from the public and the private health sectors. Assessment of HCPs’ STI treatment competencies should be conducted in order to be able to provide adequate health education for them. This would help to enhance HCPs’ knowledge and skills in providing STI services. This is in line with recommendations from the World Health Organization, which has placed importance on syndromic approach for STI management as it is simple and cost effective, especially in resource limited areas [7, 35].

HCPs’ attitudes towards FSWs with RTI/STI symptoms (I)

Our findings indicate that HCPs from both the public and private sector not only had limited knowledge about STI but more than half reported negative attitudes toward FSWs with RTI/STI symptoms. This is vital because judgmental attitudes will harm relations between the patients and the providers in the provision of care, and thus reduce success of STI case management [81]. The reason for these negative attitudes may be the

sensitivity of sex work. Given the traditional culture in Laos, sex workers are seen as having “deviant” behaviour [129], especially since sex work is illegal. Furthermore, STIs are perceived negatively and even people from the general population with STIs are stigmatized [129, 147, 148]. This observation is consistent with results from other studies where health practitioners perceived STI patients having loose sexual morals and being drug addicts [81]. A study from India found that health workers perceived FSWs to spread HIV and that FSWs should be controlled for HIV [149]. However, our findings indicate that HCPs have conflicting attitudes. A clear majority of the respondents agreed or strongly agreed that FSWs with STI symptoms should be treated with respect and that FSWs are not different from other women. This indicates concerns about the patients and can be used in counselling training to minimize negative attitudes among HCPs, which has been reported as an effective method in other settings [150, 151].

Improving quality of STI services is one of the goals in the Lao National Policy and National Action Plan on HIV/AIDS and STI [136]. Keys to success of STI service comprise not just correct diagnosis and treatment but also include the behaviour and attitudes of the health workers. Improving HCPs’ skills and knowledge regarding STI through adequate training in STI management has been found to improve the quality of STI services in other settings [21, 152], but lack of knowledge is not the only cause of negative attitudes. Jayanna and co-workers [149] found that despite HCPs being trained and having acquired adequate knowledge in STI management, their attitudes towards sex workers did not improve. Training with special focus on attitudes and values are needed in our study setting. In addition, other factors such as health providers’ working conditions, which might lead to low motivation and thus influence the quality of STI management, should be considered [79]. In study III, we found that negative attitudes of HCPs were recognized by FSWs as barriers to accessing STI services (III). Sihavong and co-workers [148] also found that clinicians’ attitudes towards STI patients needed to be improved. Training in counseling is a recognized procedure to promote behaviour change among HCPs [35, 153]. Furthermore, counseling is an essential component to achieve patient’s adherence to treatment as it has been shown to significantly increase clinic attendance both in low- [84, 154] and high-income countries [155].

5.2 Care seeking behaviour and barriers to accessing STI services (III)

Care seeking behaviour for RTI/STI symptoms (III)

In study III, we found that despite STI services being available and accessible in the study districts, as they were all in urban areas, most sex workers did not seek care as soon as they experienced STI symptoms. The mean time of delay from onset of symptom to first visit to a healthcare agency was ten days. Such delays represent increased risks of pelvic inflammatory disease and further transmission of STIs [2, 3]. Prompt, correct diagnosis and treatment with health information are essential elements of the success in STI treatment [25]. Although public facilities offer services free of charge to patients, we found that sex workers faced several challenges in accessing STI services. Eighty-six per cent of the respondents reported RTI/STI signs or symptoms currently or in the last three months but only two thirds of the symptomatic respondents sought care. This require urgent attention and interventions because commercial sex

work is known as a main route for heterosexual transmission of STIs and HIV in Laos [136] and elsewhere [55, 156].

Barriers to accessing RTI/STI services (III)

Sex workers reported experiencing difficulties in accessing STI services. According to their reports, the main barriers to service use were inconvenient location of the clinic, not knowing where to get the services needed, and lack of confidentiality (III). This indicates that fear of disclosure about one's profession, for example, being identified by relatives and meeting people who they knew, were great concerns. In the Laotian context, being identified as selling sex would bring shame and embarrassment to the woman's parents and family (II, IV). The community would blame parents for the poor upbringing of the daughter.

Ryder and McNulty (2009) found that lack of confidentiality was one barrier to seeking health care because patients did not want to disclose sensitive information to health-care workers [36]. If FSWs perceive that there is lack of confidentiality and experience prejudice from HCPs (I, III), the women might self-medicate and delay care seeking, as has been reported elsewhere [67, 157]. This may increase adverse effects of STIs for the women, their customers, and the general population [158, 159]. Based on our findings we assume that the establishment of a centre for FSWs within a public hospital setting could influence FSWs' health seeking negatively because of their fear that sensitive information is shared with other health workers. In order to avoid such negative expectations the drop-in centre could be located outside the hospital setting and the name phrased neutrally. Acceptability of and easy access to STI services has the potential to reduce STIs and HIV transmission not only among FSWs but also among the general population [20, 160]. Interventions should be prioritized and more attention should be paid to those sex workers who claimed that they did not know where they could get the services they needed. Furthermore, STI services need to be offered in a confidential manner in order to attract FSWs who worry about lack of privacy. Understanding the sex workers' care seeking is crucial for successful initiation of sustainable STI treatment and control among this high risk group [65].

5.3 Perceptions of health and ill-health in the sex work context (II, IV)

Perceptions and significance of health (II, IV)

In study II we found that FSWs did not view health as mainly a medical domain but more as a condition related to their life and working situation. The women described several aspects that were associated with their source of income such as that good health meant physical fitness, which was necessary for being a sex worker. Such accounts indicate that financial insecurity is a pressing concern. The perceptions of health as expressed by our participants obviously differ from the definition of health used by the medical profession [161]. Evans and Lambert [162] found that, in India, "if the sex workers are happy, making money and eating well, they will stay healthy. It is only if they are worried that they get sick". In Tanzania, FSWs interpreted their health as a means of production [163]. In our study, health was regarded as "client's demand", a key element in sex work and that

good health could reduce negative perceptions from the community (II, IV). Similar studies have been reported from Pakistan and Vietnam [69, 164].

Perceptions of ill-health and its negative outcomes (II, IV)

Conversely, concerns about the adverse consequences of ill-health were extensively reported by the sex workers (II). They described how ill-health caused financial problems, which in turn limited their ability to support their families and that ill-health imposed negative perception from the community when the women returned home (II, IV). The women's descriptions about ill-health were not related to health problems but they involved other biological and socio-cultural issues. They also listed problems related to their work from which they suffered, and only some specific signs or symptoms such as fever and having discharge were explicitly referred to as disease. Health and ill-health often shares the psychological, moral and social dimensions related with other forms of adversity within a particular society. Helman (2007) describes that neither health nor illness are static constructs, but that both are influenced by a particular economic and social situation and also human characteristics, experiences and beliefs [165]. Research findings from other settings have reported that tuberculosis patients felt ashamed or embarrassed because of the disease. The clinical perspective was less reported, but their feeling of being socially ostracized was a major concern [166, 167]. This might thus influence their care seeking. Dixon-Woods and co-workers [75] described that there is a strong relationship between the intention to seek care promptly and the perceived outcome of seeking health care. The promptness will thus be due to the patient's own evaluation of their health or illness and risk behaviour. Despite Laos having a national policy and action plan in place, the management of STIs for sex workers still faces several challenges. One possible explanation is that most interventions directed to sex workers have focused on individual control such as condom use and type of sexual partner [124, 168]. Designing health information services for sex workers should be prioritized in order to improve their awareness of health risk and the important of promptness seeking care when ill.

FSW's obligations towards the family and benefits of sex work (II, IV)

Studies II and IV revealed participants' desire to support their family, the expectations the society has on the women and also the benefits of sex work. The women described how they became engaged in sex work as an alternative way to make a living not only for themselves but also for the survival of their families. When rural Lao families are financially stressed, the daughters are often kept out of school (IV). Girls are not allowed to continue after primary education, as it is believed that education for girls would waste resources because they would soon be married and build their own family. As a result, the girls will have the husband to help in agriculture produce for subsistence. This means that women have fewer opportunities for employment, making them financially vulnerable and forcing many of them into sex work. The need to support the family financially might also increase risky sexual behavior amongst FSWs as found in our study when some FSWs mentioned that they accepted sex without a condom in order to get better pay (IV). Meeting one's family's needs could also limit the opportunity for using healthcare services as the women instead needed to reserve their income to support their families (II). Obligations toward the family were important but placed the women in potentially risky

situations. We found, however, that the women did not perceive such practices as risky but rather as beneficial because of financial gain (IV). Several studies have found no relationship between perceived risk of HIV infection and the adoption of health protective behaviours or intention to change behaviour [169-171].

The sex workers in our study mentioned their obligations towards their family but they also talked about being proud when being able to support the family, which gave social status and decreased negative perceptions from the community (II, IV). These findings are in accordance with research findings from Vietnam [69, 91, 172, 173] where FSWs' life was influenced by social and cultural norms and that sharing the responsibility for the family income was perceived as a value since it fulfilled the social expectations. In our research (II, IV), when a daughter provides financial support to her family, she brings pride to the family and people in the community will praise parents for their good upbringing of the daughter. It is also interesting to notice that some sex workers reasoned that sex work gave them not only money but also sexual pleasure and fun. This is important and need further investigation as sexual desires are often linked to sexual practice and risks.

5.4 Sex workers' work environment, risks and survival strategies (IV)

The interviewed sex workers reported about their working situations, including risks and the strategies that they used in reducing or avoiding them. Women who engaged in sex work reported an increased risk of violence and sexual assault by guests or unfamiliar customers. Other studies have found that sex workers risk reproductive health problems such as STIs/HIV, unintended pregnancy and consequences of unsafe abortions [174, 175] as well as physical and emotional distress, which are major causes of morbidity and mortality [23, 176]. This is particularly a problem among under-aged sex workers because of lack of knowledge of safer sexual practices [177, 178]. The sex workers in our study, however, perceived these risks as a normal facet of their work that is something they must do in order to earn a living and to support their families (II, IV). This has also been reported from other settings [23, 179].

Although the sex workers in our studies were aware of the risks of sex without a condom, and oral or anal sex, they did not always avoid such risks. Instead, they sometimes engaged in these risky practices in order to increase benefits such as financial gain. Thus, in some cases, sex workers saw benefits in having unsafe sex. A study carried out in Mombasa [180] noted that men who had sex with sex workers did not use condoms because they did not find male condoms pleasurable, even though they knew it was risky not using condoms. Research findings from India and Cambodia found that sex workers accepted anal sex or sex without condoms because of clients paying more money [181, 182]. Existing health behaviour research has shown that "risks and benefits" are the most powerful predictors of HIV related behaviour change [169, 171]. Findings from the present study expand our understanding about why sex workers in our study context did not always use condoms or failed to convince their clients to use condoms. Thus, despite ten years of the 100 per cent condom use program in Laos, using condoms during all risky sexual encounters is still problematic among sex workers. This poses a real challenge for policy makers to develop more effective interventions based on the reality of the women.

Our findings offer clear evidence that social stigma, violence and being cheated by clients were the sex workers' main concerns. Violence in sex work in Laos may be the result of sex work being considered immoral according to Lao culture. Alternatively, clients may see violence as a form of punishment for engaging in low, immoral and illegal work, as has been reported in other settings [23, 183]. Other research has noted that the illegal status of sex workers limited their rights and put them in disadvantaged and vulnerable situations such as limited access to health care and information services, lack of social support, fears of being arrested by police, and lack of protection from violence [38, 91, 173, 175, 184]. Our findings are important since they suggest that the non-legality of sex work in Laos might force these women into violent situations, meaning that sex workers are highly dependent on bar owners, mamasans, polices and their clients.

Despite the large number of studies identifying the association between health risks and violence against sex workers, there is limited evidence about strategies to prevent or reduce risks among them. Our findings explored several strategies that sex workers use to reduce or avoid risks, including choosing clients carefully, waiting for the client to finish the sex after the agreement time was elapsed, and bringing a cell phone. Some requested their clients to visit a place where security guards were available and easy to ask for help in order to avoid being cheated, and many discussed the type of service, the price and the length of the service before the agreement was made (IV). These strategies were valuable and essential to prevent or minimize potential risks, and these can be used in risk reduction promotion among sex workers, especially those who are new in sex work.

5.5. Methodological considerations

5.5.1 Triangulation of methods

Triangulation of methods refers to using more than one method to collect data on the same phenomena in order to achieve consistency and validity of inferences [185, 186]. We applied both quantitative and qualitative methods including face-to-face structured interviews, in-depth interviews (II, IV), participant observations (not included in the papers), and FGDs (IV). In addition, during the data collection and analysis, we discussed results with peers (researchers and colleagues at PCCA).

5.5.2 Quantitative methods

In our quantitative studies (I, III) quality is measured through internal validity (whether the measurements are accurate and whether the research actually measures what it is proposing to), through reliability, which is the consistency of measurement or whether the results are replicable, and through external validity or generalizability, which refers to the degree to which the study findings are relevant to the subject and settings or context beyond the study [187, 188].

Internal validity

In this thesis, we carefully designed the research process in order to avoid systematic error that can affect internal validity. All questionnaires developed by the research team members (medical doctors, social scientist, and midwife and public health specialist) were pilot-tested and revised before the data collection. The questionnaires were based

on group discussions with thirteen HCPs (Study I), and in some cases on previous behavioral research in Laos conducted by Family Health International. The HCPs gave feedback to the findings from the pilot and confirmed that their responses and feelings according to the attitudinal statements reflected reality, particularly in relation to some negative statements. The RAs had a background in social sciences and were trained about the study's aims, in procedures on how to approach study participants and ethical issues. Face-to-face interviews were carried out in a place convenient to the participants where the HCPs and the FSWs felt relaxed and confident to openly discuss the interview questions. The data collection was closely supervised by the first author (KP). All interview forms were checked before assigning an identification number. Incomplete interview forms were returned to the interviewer or respondents for clarification, a measure that enhanced the validity of results. Double data entry was conducted by the first author and one of RAs (I, III). Consistency checks were run to inspect the validity of the two data sets. Incorrect entries were examined and verified against the original forms.

External validity

We aimed to interview all HCPs who were in charge of RTI/STI services and all FSWs in the study area. A mapping procedure to identify HCPs (I) and entertainment establishments and FSWs in the study area (III) was carried out by the RAs. In order to prevent a repeat interview, since FSWs often change location, a screening question was applied and participants' names were checked and compared to the information from the mapping in each entertainment place prior to interview. These procedures helped to identify the eligible/ineligible participants. Although we could not interview all eligible HCPs and all identified FSWs, the response rate was about 97 per cent in both studies I and III, which is very high. The findings can thus be generalized to HCPs and FSWs in similar settings throughout the country.

Reliability

The reliability of the scale used in the instrument for study I was checked through the use of the Cronbach alpha and the Kendall Tau b statistics. The Cronbach alpha statistic of .78 showed good reliability of the attitude scale. The Kendall Tau b indicated good internal consistency, as described above.

Limitations

In study I, data were only collected from HCPs who provided STI services. The views of those who did not provide STI service were thus not covered. Moreover, only herbalists who were reachable in the study area were recruited. Nevertheless, this recruitment was judged as the only feasible procedure and we assumed that FSWs would seek STI treatment from the most accessible places. Attitudinal scales have limitations in measuring complex phenomena [189-191]. Some statements might have different meanings to different providers, implying that the attitudinal results from study I must be interpreted with caution. On the other hand, attitudinal statements are also considered useful in getting an overall picture of people's attitudes [189]. Using RAs from a nonmedical background was a suitable procedure for data collection and helped

to minimize interviewers influencing the participants' answers. For example, participants might give more complying answers just to please the interviewer if they know that the RAs were from local authority or medical professionals.

In study III, the mapping we conducted helped to avoid potential bias from repeated interviews with the same FSW and assured that all known entertainment establishments in the district were recruited. There is, however, a risk that hidden locations were missed. One should note that FSWs are a mobile population, which makes it difficult to recruit them [192]. In addition, data were only collected from women who were available the day of interview. The views of those who were absent seeking treatment or attending to clients were thus not covered. Another limitation is that FSWs who reported using public hospitals might have done so because there was a drop-in centre located at the hospital. Reporting symptoms of STIs is sensitive and some women might have concealed their symptoms. We tried to minimize this by conducting each interview in a location that was convenient for the participants and where the conversation could be held in privacy so the women could feel free to discuss their personal experiences.

5.5.3 Qualitative methods

Trustworthiness

In qualitative research, trustworthiness is used to describe the quality of the research process [193]. It comprises 1) credibility, which refers to how well data and analysis address the objective of the study; 2) dependability, which refers to the process of research and how well everything is documented thus how well the reader can follow what has been done; 3) conformability, which refers to the interpretation of the findings and how it represents the reality of those studied e.g. through quotes; and 4) transferability, meaning to what extent the findings can be transferred to other settings or similar groups [137, 194].

Credibility

The RAs were trained on methods of qualitative data collection procedures and how to approach potential women to be interviewed (II, IV). The participants were carefully identified and recruited by the peer educators and the first author, for example, FSWs from different background regarding age, marital status, duration of sex work, and type of workplace were included. Such procedure enhanced variation and increased opportunity to attain broad perspectives from the women as elaborated by the quotations [193]. Moreover, FGDs and in-depth interviews took place in private settings chosen by the participants (II) or in a room arranged by the research team (IV), giving them the chance to think and discuss freely, thus increasing the quality of the data. Credibility can be achieved through the triangulation strategies built into data collection and analysis as discussed below.

Credibility of qualitative data is strengthened by triangulation [186, 193]. Triangulation of methods, data sources and researchers was used in this study. Researcher triangulation was achieved by involving researchers from different background in the research process. The research team that included Lao and Swedish researchers with different research experiences took part in the analyses process giving their input on the findings and the

interpretation of the data. Data analysis was done by the first author (KP), the coauthor (EF) read the English transcripts and codes (II) and (ST) read and coded the interviews and FGD that were translated to English separately. The codes were compared and discussed.

Transferability

Transferability refers to the degree that qualitative findings can be applied to other settings or contexts [137]. Although the qualitative findings have limited generalizability and that may not be inferred to all FSWs, I believe the results can be applied to similar Laotian contexts or settings and also to other similar populations with similar socio-economic situations.

Conformability

Member checking or respondent validation refers to a process of confirming findings by sending them back to the participants to ensure that what was said was understood correctly by the researchers. However, all questionnaires of these studies were pilot-tested and the results were shared with the peers who used to work as a FSWs and the research team members. In addition, during the analysis the first author read the interview text several times. We tried to keep the original text and provided thick descriptions to reflect the reality of the women (II, IV). The quotes are presented verbatim and thus provide an opportunity to the readers to make their own interpretation.

Reflexivity

Reflexivity refers to the way that knowledge is influenced by social class, gender, ethnic and professional background of the researcher, and is an important aspect of the research process. It is critical to pay attention to how the role of the researchers is taken into consideration during the involvement at every step of the research study [193, 195]. In this thesis, the research team members were reminded about the potential bias that could arise during the study. The female interviewer and the peer educators (who used to work as FSWs), who were Laotian, who knew the language and the social context of the study setting frequently discussed and gave reflections before and during the data collection. The first author, who is from the study setting, enhanced awareness of the way study participants should be approached (II, IV). However, being a male interviewer could have been a limitation to gain trust from participants (IV). I therefore explained my role clearly that I was not a staff member from the local authority, that I was not involved in treatment, health information or condom distribution at the drop-in center, and that nothing they said to me would affect their lives. During the FGDs and individual interviews (IV), I also took notes and observed whether the participants talked freely or looked stressed. This helped to remind me about my role and the quality of the discussion and interviews.

Discussing sex-related matters is sensitive. I found that some participants started crying immediately when I posed a question that was sensitive to them. When I first experienced this, I was reluctant to continue the discussions or interviews but I was assured that they wanted to openly discuss their experiences with me. However, the women's crying could

reflect different aspects of their lives, and should be interpreted with caution. In another way, I perceived that this was a strength in the data collection. The peers and the interviewer who accompanied me and took notes helped to relax the participants, and they reminded me to have a short break when the discussion came into an emotionally distressing situation. We chatted and joked with participants during the coffee. We also played games, sang songs and demonstrated tactics how to use condoms and asked some of participants to do so in order to prevent or release their stress. We also referred FSWs with serious social problems to appropriate agencies and organizations.

6. CONCLUSIONS

- HCPs' knowledge about STIs was limited; their understanding about STI causes, modes of transmission, and symptoms was unclear and sometimes inaccurate.
- Negative attitudes toward FSWs with STI symptoms were common among HCPs from both the public and private health sectors.
- FSWs' beliefs and perceptions about health and ill-health were dominated by their economic need, which in turn was influenced by expectations and demands from their families. The obligation to support one's family threatens FSWs' health and social and financial security.
- FSWs sought care from both public and private health facilities. There were several barriers to accessing RTI/STI services, related to both structural and individual factors.
- The main barriers to service use were long waiting times, inconvenient location of the clinic, not knowing where to get the services needed, and negative attitudes among healthcare providers.
- About two-thirds of the FSWs had sought care for their genital symptoms in the past three months. The mean time of delay from onset of symptom to first visit to a healthcare agency was ten days.
- The FSWs were aware and faced several risks in their work environment. Their decision-making and risk-taking behaviours were outcomes of risk-benefit analyses and were fueled by gender inequities and cultural and social norms.
- The desire to be self-sufficient and earn as much money as possible put the FSWs in disadvantaged and vulnerable situations. Fears of financial insecurity, obligations to support one's family and the need to secure the future influenced FSWs' decisions to have safe or unsafe sex.
- The FSWs were not only victims; they also had some control over their lives and working environment, with most viewing their work as an easy and good way of earning money.

7. RECOMMENDATIONS

- Train both the public and the private HCPs involved in STI services in syndromic management systematically and consistently in order to improve HCPs' knowledge about STIs.
- Training in STI service should include improving HCPs' attitudes and respect for STI patients in order to reduce stigma and discrimination faced by sex workers when accessing health care services.
- There is a need to sensitize the available STI services and address strategies to minimize long waiting times in STI services. In addition, confidentiality in STI service use should be designed.
- To increase clinic attendance among FSWs, especially adolescent sex workers, health facilities should provide patients with an environment that respects their privacy and have notices to inform patients that they can ask for privacy anytime they feel inconvenienced.
- Health information, basic knowledge and awareness of STIs and its complications through the peer education approach for FSWs should be developed in order to empower FSWs to recognize RTI/STIs and seek care promptly.
- A priority should be given to address contraceptive service delivery to FSWs in order to prevent unintended pregnancy. FSWs' strategies to use condom and emergency contraceptive "dual protection" should be promoted.
- Interventions that focus on violence against FSWs should be developed in order to protect their basic human rights.

8. FUTURE RESEARCH

- Further research should approach and discuss with bar owners and mamasans about their view on FSWs, which may provide a strong foundation for sex worker health programs.
- More research to explore interpersonal relationships between FSWs, group dynamics and norm establishment, and social network characteristics are essential in designing health intervention programs.
- It would be valuable to understand views of clients of FSWs and this could be used to promote safer sex and to reduce risk in sex workers' work environment.

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July 2012_Stockholm, Sweden
Ketkesone Phrasisombath

The Ethical Clearance

Lao People's Democratic Republic
Peace independence Democracy Unity Prosperity

Ministry of Health
National Ethics Committee
For Health Research (NECHR)

No....116...../NECHR

Ethical Clearance

Project Title: Female Sex Workers in Savannakhet, Lao PDR-perception, care seeking behavior and barriers related to RTI/STI services

Objectives:

- To assess health providers' attitudes towards FSW with RTI/STI symptoms (*sub-study I*)
- To explore perception of health/illness among FSWs (*sub-study II*)
- To assess care seeking behaviours and barriers to accessing health services regarding RTI/STI symptoms among FSW (*sub-study III*)
- To explore risk perception and working situation among FSWs (*sub-study IV*)

Ethical Considerations:

According to the Declaration of Helsinki, a recognized NECHR approves the protocol of this study before it is initiated. NECHR is a focal point for approval all health research to human subjects activities including ethical clearance. The investigator is committed in compliance with local requirements, to inform the NECHR of any emergent problems, serious adverse reactions, or protocol amendments. Every attempt should be made to ensure confidentiality for the respondents. The data should be kept in a secure place at University of Health Sciences with only the researcher and supervisors are able to access the data. Participation in the researcher should be on the voluntary basis and consent should be obtained through the verbal and written consent of the respondent, final report should be submitted to NECHR and secretary committee after its completion.

Statement for Ethical Clearance:

NECHR confirms that the proposed project "Female Sex Workers in Savannakhet, Lao PDR-perception, care seeking behavior and barriers related to RTI/STI services" has been approved. We believe that this project will contribute to a great importance of health promotion, disease prevention, health Policy, and health service in the future through the research activities.

Vientiane, 20/04/2008
President, National Ethics Committee
for Health Research



Prof. Dr Sithat INSISIENGMAY

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