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A Study of Female Sex Workers in Hong Kong: Moving beyond Sexual Health

By

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I, William Chi Wai Wong confirm that:

(a) that the thesis has been composed by me; and

(b) I am the principle investigator of a research group that I have made a substantial contribution to the work, such contribution being clearly indicated; and

(c) that the work has not been submitted for any other degree or professional qualification.

Signed by

15/03/2007

William CW Wong Date

I would like to dedicate my MD thesis to my beloved wife, who has sacrificed herself in taking care of the family and supporting my studies. I want to say sorry to my daughters. As a father, I should have spent more time with them...

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Chapter Outlines

In the first chapter, I will, first of all, define what sex work is and the historical development in research in this field as well as the views from different schools of thought and research. I will briefly mention why the term 'sex work' rather than 'prostitution' is used and justified how it should be regarded as an occupation. This will further be discussed under the section "Social and legal issues" in Chapter 2. I will also mention my own experience of work in this area, followed by the reasons why I want to do research in this field. I will argue the role of general practitioners in looking after this vulnerable group of the population and finally what this study hopes to achieve.

In Chapter 2, I will report the review of the international research literature on sex work from 1990 through to 2004. The review will be discussed under the following headings: (1) HIV related research (HTV prevalence studies, factors in condom use, and prevention program evaluation); (2) sex workers' background and motivational issues (early victimisation and connected factors, economic motives and connected factors); (3) work related issues (working routines, risks and stresses, and managing risk, work and identity); and, (4) issues related to social and legal status.

Chapter 3 is based on a literature review, 'The health of female sex workers in Hong Kong: do we care?' published in Hong Kong Medical Journal in December 2003 (Wong and Wun 2003). Further search using social science database is performed to include the

comparable period and database as is in the international literature review. In it, I will describe the situation of commercial sex in Hong Kong and briefly its effect on our social and economic life. Then, I will go over the current literature related to the health of sex workers in Hong Kong, which is mostly on sexually transmitted infections (STIs) / HIV. I will also discuss the other potential health-related problems that sex workers are facing in Hong Kong. Here, I will emphasise the relevance and significance of this study to this population subgroup and people of Hong Kong.

The rationale of the studies and the hypotheses of the research questions being tested are outlined in Chapter 4. Quality of life measures are used as a tool to reflect health-related quality of life. A discussion on why the abbreviated version of World Health Organization Quality of Life (Hong Kong) (WHOQOL-BREF (HK)) is selected for this study and what it measures will be carried out in chapter four. A brief description on the validation and cultural adjustment of the Chinese version will be given in Chapter 5.

Chapter 6: A brief discussion on why quantitative and qualitative methods are used in this study. A description on how this study is conducted including sample frame, sample size estimations, designs, precautions taken to avoid biases etc. A number of statistical methods are used including chi-square tests and independent t-tests with odds ratios and confidence intervals calculated as well as why and how ordered probit regressions and negative binomial regressions are applied. The use of focus group discussion and how it is analysed will also be discussed.

Chapter 7 is modified from the article 'Female sex workers in Hong Kong: Moving beyond sexual health' which has been published in the Journal of Women's Health. (Wong, et al. 2006a) A face-to-face interview was carried out on 89 street sex workers between November 2003 and January 2004. The questionnaire consisted of two parts: The first part was the abbreviated version of the WHOQOL-BREF (HK) Measure and the second part comprised 6 different domains, namely health behaviour and hygiene, diet, weight and exercise, leisure activities, environment and personal information, examining female sex workers' health and lifestyles in more details. These were compared to women of same age group living in Hong Kong.

An overview on their quality of life highlighting the problems of psychological and environmental health and safety issues will be reported in Chapter 8. Taking forward the findings from the survey above, a focus group discussion with six informants was conducted in 2004. Using mixed qualitative and quantitative methods, we will report the problems the street sex workers face when confronted with the police and clients, and see how the environment interacts with their health.

Since we know that the psychological health of the street sex workers is much poorer than the general public and the environment they work in is very harsh, we hypothesise that they are correlated. Therefore, along with all possible factors, ordered probit regressions, logistic regressions, and negative binomial regressions are performed to see

what may have related to poor psychological health and could predict the probability of psychological outcomes of these street workers in Chapter 9.

Based on the paper being reported by me and my team in Health Policy, I will firstly describe the current use of health services by the street-based sex workers and to explore beliefs behind these health behaviours using the stepwise conceptual constructs modified from the theoretical models of health-seeking behaviour in Chapter 10 (Wong, et al. 2006b). As many problems are identified from this study such as low use of health services, widespread of self-medicated antibiotics, lack of preventive care, an alternative model of healthcare service provision will be suggested.

The second part of the project was to see if an outreach model could be a feasible option for early detections of pre-invasive cervical cancer in FSWs working in Hong Kong who are most needed of cervical screening but often deprived of such a service. High turnover rates, acceptability and compliance for follow-ups could potentially render such a clinical model unsuccessful. The experience and evaluation of this study is now accepted for publication by the International Journal of Gynecological Cancer. (Wong, et al. 2007)

Finally, I will summarise the problems- sexual and non-sexual- that the Hong Kong sex workers are facing and the experience of running an outreach clinic as a way to solve some of these problems. I will also discuss the strengths and limitations of this study as

well as future recommendations as the ways forward to improve the quality of life and work conditions of the female sex workers (FSWs) in Hong Kong.

This thesis will adopt the Harvard version of the author-date system for bibliographical references where the author and year of publication appear in the text and the full reference in Harvard style appears in the reference section at the end of the thesis.

The Investigative Teams

There are a number of investigative team members across many disciplines and sectors working both locally and internationally involved in this project. The review of international literature was based on a comprehensive literature review on sex work for the period 1990-2000 conducted by the Netherlands Institute of Social Sexological Research. Using the same methods I extended the review from 2001-4. The review of local literature was conceptualised, designed, conducted and written up by me. Dr YT Wun (Research Committee, Hong Kong College of Family Physicians) who was experienced in systematic reviews advised on the design and report writing.

The survey and focus group discussion was initiated by me and an investigative team comprising of a medical anthropologist (Dr E Holroyd, currently Professor of Asian and

Gender Studies and Head of Nursing School, Royal Melbourne Institute of Technology, Australia), a health economist (Dr. DC Ling from California State University, USA) and previously the outreach team coordinator (Sister Ann Gray) was formed and led by me. I put together the questionnaire with comments and suggestions from all parties concerned and conducted the pilot study. I was responsible for subsequent data collection and entry as well as most of the data analyses and reporting of two published manuscripts for which Chapters 7 and 10 were based. Chapter 8 was modified from a manuscript that has been accepted for publication by Journal of Advanced Nursing for which Dr Holroyd was the lead author when the analysed data including that of the focus group discussion was supplied by me (Holroyd, et al. 2005) whereas Dr. Ling was responsible for the modelling, analyses and reporting of the relationship between occupation, psychological health and suicidality (Ling, et al.2006). Dr. Ling and I discussed the analytical methods through telephone and she explained why such methods were used.

There are four members in the investigative team for the outreach clinic study and they are: Dr. Wun, Dr. KW Chan (Director of Diagnostix Laboratory in Canossa Hospital which is a private hospital), Dr W Goggins, Biostatistician and Assistant Professor at CUHK and Ms Yan Liu, a research nurse who joined the team in November 2005. In 2004 I approached a non-governmental organisation, Ziteng and suggested to set up a Well-women Clinic there. I arranged to have a pharmaceutical manufacturer to donate all the reagents and a private laboratory to perform the PAP smears free of charge for the clients of Ziteng and tests for some of the STIs at cost. I helped to set up the clinic at Ziteng in a red light district and, brought together and coordinated a group of voluntary

doctors. I registered the clinic with the Hong Kong Medical Council and applied to Medical Protection Society to have my and other voluntary doctors' indemnity insurance cover extended. I devised all the referral and prescription forms for this Well-women clinic. I with the help of Dr Wun adopted the local STI management guidelines and provided training for the participating doctors and Ziteng staff to ensure the quality of care provided in this clinic. As an operational research I designed and modified the questionnaire and clinical records according to the medical needs of the targeted population while trying to collect the necessary information to answer our research questions. I was responsible for data collection, analyses and reporting of the experience of this outreach clinic with the advice from Dr Wun on the design of questionnaire and guidelines. Dr. Chan conducted the Pap smear examination while Dr. Goggins helped with the statistical analyses used in this study. Ms Liu helped me to enter the data and searched for some literature used in the report.

Abstract

Background International research from the early 90s has convincingly shown that sex work *per se* is not a major vector in the spread of HIV in developed regions. Instead self-determination, autonomy and control are crucially important when it comes to HIV risks as well as the general health and well-being of the female sex workers (FSWs). In Hong Kong, our understanding of the health of FSWs from the literature is very patchy and often fails to take into account the perspective of FSWs themselves, and the complex issues and problems they face.

Methods A 30-minute face-to-face interview was conducted in 89 women by direct approach and snowballing through a well-established non-government organisation (NGO), followed by a focus group discussion drawn from the participants of the questionnaire in 2003-4. In 2004, an outreach Well-women clinic was set up at another NGO and using the rate of abnormal PAP smears identified and follow-up rates we wanted to assess whether it was a feasible option for early detections of pre-invasive cervical cancer in FSWs in Hong Kong.

Results The FSWs surveyed scored significantly lower in physical, psychological, and environmental health domains in WHOQOL-BREF (HK) questionnaire when compared to non-sex workers of the same age group and sex in Hong Kong. After controlling for background characteristics, a number of factors that were inherent to the sex industry were significantly associated with poor psychological health and

suicidality. In the supplementary focus group discussion some sex workers described the experience of being abused at work but at the same time they could not seek any protection from the police. While these FSWs' perception of personal health was good, a considerable proportion had suffered from illnesses. Many street workers experienced difficulty in utilising health service in Hong Kong but even when they did, it was mainly for acute problems. Affordable access to public health services was excluded and many found private services unaffordable due to the high price charged by the medical practitioners. It was common for these women to self-medicate, delay in seeking medical help, or travel back to China for treatment.

Of 235 FSWs who attended the outreach clinic, 9.8% of them had Cervical Intraepithelial Neoplasia (CIN) I-III and places of origin were found to be an important risk factor for the presence of abnormal PAP smears. 88.1% of the women who had the tests returned for follow-up with a lower return rate among local FSWs.

Conclusion This project identifies a number of problems and difficulties faced by the FSWs working in Hong Kong and we make use of these findings to design a service that may improve their health. Since no random sample was obtained in both the survey and the outreach clinic, there is a question of representativeness and how the findings can be generalisable for all FSWs in Hong Kong. To address the health inequality experienced by this group of people, quality health care services that are relevant and sensitive to their needs are crucial. An outreach Well-women clinic

seems to be a feasible option and an effective way in the early detection of cervical cancer for some FSWs.

Chapter One Introduction

1. Definition of Commercial Sex Work

Sex work, for the purpose of this thesis, is defined as the explicit and direct exchange of sexual services for monetary gains. The term 'sex work' instead of 'prostitution' is used (unless directly quoted from other literature) in order to emphasise its 'occupational' nature and reduce the immoral and negative stigma associated with the prejudicial terms such as 'prostitutes' and 'prostitutions' (Jenness 1993). Sexual services can be in form of oral, vaginal and/ or anal intercourse. Implicit exchange (such as is possible within other sexual relationships like keeping a mistress) as well as indirect services (such as is provided in pornography or phone sex) is excluded when 'sex work' is referred to in the text.

Moreover, I will focus only on female sex workers (FSWs) and female sex work in this study as they already constitute a very diverse group. In Hong Kong, sex work is traditionally provided through a number of institutions including nightclubs, karaoke bars, massage parlours, one-woman brothels, controlled brothels, and also street sex workers. With the advance of technology and change of social behaviour, it has expanded to

internet cafés, instant messenger services (for examples, "I seek you" (ICQ)) or personal networks in recent years. Access to and research in the newer networks is much more difficult and less readily available. This study will thus focus on sex work provided by the traditional institutions, and also excludes research and reviews on commercial sex clients.

2. Historical Development of Commercial Sex Research

Throughout the previous century, commercial sex was an important target of political, medical and therapeutic intervention as well as of scientific study. It unremittingly remained attractive to many anthropologists, psychologists and medical sociologists. Appraising the earlier social science literature on female sex work, it seemed that feelings of abhorrence, astonishment, incomprehension and fascination had motivated many of these researchers (Vanwesenbeeck 1994). Pressing questions included: Who were sex workers, and why did they enter into this work? Questions about how FSWs managed (other than sexually transmitted infections (STIs)) were asked much less often and, in comparison to FSWs, clients were studied much less extensively.

The first studies of "the problem of prostitution" almost exclusively took the sex work as the unit of analysis and focussed on biological explanations for the presumed 'evil characters' and 'sick personalities' of these women (Stein 1974). This focus on pathology in the individual FSW was thoroughly cultivated within the psychoanalytical tradition of the 20th century. In most psychoanalytic work, limited observations were generalised without any distinction being made among different types of sex work or institutions they worked in, nor any societal conditions being considered.

During the second half of the 20th century, early victimisation was put forward as an explanatory factor for entrance into sex work. The early research on physical and sexual abuse of women revealed a relatively high percentage of FSWs among childhood abuse victims and, in addition, evidence of a relatively high percentage of childhood abuse victims among these women was presented. Rates of intra-familial childhood sexual abuse among juvenile sex workers reported in American and Canadian studies in the 1970s and 1980s vary between 31% and 73% (Bagley and Young 1987; Weisberg 1985). Explanations for the connection between childhood abuse and sex work were often psychodynamic, stressing sex work as a form of counterphobic behaviour (Choisy 1961; Greenwald 1958; Mathis 1974). Others argued that 'the drift into prostitution' of the abused child was a response to informal labelling and subsequent stigmatisation, enhanced by factors such as running away, institutionalisation, acquaintance with pimps,

drug abuse, the need for money, and the lack of employment possibilities (James and Davis 1982; Silbert and Pines 1981). The evidence from several controlled studies empirically supported the suggestion of a link between childhood sexual abuse and sex work and the relevance of the factors mentioned (Bagley and Young 1987; Earls and David 1990; James and Meyerding 1977). Unfortunately, the evidence that revealed associations between sexual trauma and psychological or psychiatric disorders had shifted the attention away from their mental health. Both mental health aspects and the role of victimisation had predominantly been in relation to the choice for sex work, but not to sex workers' actual and work situation.

The outbreak of the HIV epidemic and the fear of its rampant spread in the late 80s transformed the research focus of sex work. Many medical professionals had become interested in sex work only because of HIV. Vast amounts of literature were dedicated to occupational hazards concerned HIV risks. At the beginning of the 1990s, it had become clear (at least for the Western world) that any notion that FSWs would play a decisive role in the spread of the HIV virus could not be substantiated. Condom use was generally found to be high in commercial contacts. Intravenous drug use and unprotected non-commercial sexual activity were identified as the most important risk factors for HIV in female sex workers, except in some African countries and India where the role of sex work in the spread of HIV appeared to be important (Darrow, et al. 1991; Estebanes, et al.

1998; Spina, et al. 1997; van Ameijden, et al. 1994). It was noted that the incidence of HIV among sex workers varied considerably and could only be interpreted in relation to the broader features of the epidemic in a particular area and to the wider organisation of sexual activity and sex work in that area. Like the Western countries, this was more related to the economic status and negotiating power of the sex workers. Although condom use was often presented as an explanatory variable for infection rates, the need for contextualised, differentiated research into the reasons for sex workers and clients to either use condoms or engage in unprotected sex only became evident in the 1990s.

3. What does Commercial Sex Work mean to People of Different Disciplines?

3.1 Sociologist Approach

Some sociologists focus the sex work research on human relationships and argue that love and marriage are usually a pre-condition of sex in most Western societies. Life-long, heterosexual and monogamous marriage has thus become the ideal form of love and the only standard against which to measure one's love. As argued by Rubin's (1993) notion of sex hierarchy, 'good', 'normal' and 'natural' sex should ideally be 'heterosexual, marital, monogamous reproductive, non-commercial'. Logically, commercial sex is

regarded as 'bad', 'abnormal' or 'unnatural' as it is 'promiscuous, non-procreative, casual and commercial.' A rigid sex hierarchy is installed through various social and cultural institutions (for example, media, education, family and religion) that provide sites for the production of a good 'sexuality'. In addition, this sex hierarchy is highly gendered. Pheterson (1996) argued that the 'whore' stigma is a female gendered stigma, 'a mark of shame or disease on an unchaste female slave or criminal.' A sex worker is a 'bad woman' with a 'spoiled identity' while a client is merely a naughty boy or a dirty old man with sleazy habits. In other words, 'she is bad for who she is and he is bad for what he does'.

3.2 Feminist Approach

Among feminists, there are two broad but opposing positions on the issue of sex work in feminism (O' Connell Davidson 1998; O' Neill 1997; Barry 1979; Chapkis 1997; Davis 2000; Roberts 1992). Firstly, the so-called "radical feminist position", sees commoditized sex as a form of - and incitement to - sexual violence. Sex work is one of the purest expressions of patriarchal domination and the most brutal form of male sexual oppression. Some radical feminists (e.g., (Barry 1979; Pateman 1988) even argued that love, relationships, and mutual pleasure were the only appropriate contexts for sex. 'Positive' sex, as an expression of passionate love, must be based on trust and sharing. Sex cannot be purchased and the practice of sex work is not really sex at all, but only an

abuse of sex. Therefore, many (Dworkin 1987; Dworkin 1988; MacKinnon 1979) flatly postulate that commercial sex itself must be abolished, as "there is nothing sexual to recover or reclaim because the very meaning of sex is male domination" (Chapkis 1997). No matter which positions they take, radical feminists seem to believe that sex work reinforces male domination and reduces women to nothing but bought objects in the market. Radical feminists usually lead the discussion to the idea of cultural cleansing and advocate a total abolition of the institution of commercial sex.

Nevertheless, there is another position, sometimes referred to as the 'sex radical feminist' position (Califia 1980; Califia 1994; Sprinkle 1991), which emphasises the right to free sexual expression and stresses the skills and control wielded by the sex workers in the commercial exchange itself. It is argued that female equality is based on free choice and that this should include the right to engage in sex work. Moreover, a women's association with sex should not be seen as the root of her oppression and abuse but as the source of her greater power. The 'whore is dangerously free' (Roberts 1992) because she effectively resists and defies male power by refusing to allow her sexuality to be owned by one man and also because she enjoys both the financial and sexual autonomy that is almost always denied to the majority of women in patriarchal societies. Sex radical feminists thus view the sex worker as a symbol of sexual autonomy and as a potential threat to patriarchal control over women's sexuality. They even embrace 'the prostitute',

together with 'the slut' and 'the dyke', as a potent symbolic challenge to the notion of proper womanhood and as subverting conventional sexuality (Chapkis 1997).

3.3 Medical/ Psychology Approach

Traditional accounts of sex work of these disciplines were mainly drawn from a medical perspective (e.g., where sex workers were said to have salient 'demonic' features that become observable when their skulls are measured precisely (Lombroso 1895), as we have seen, a psycho-pathological perspective (e.g., where it was argued that sex workers had a childhood of deprivation and abuse (Glover 1960)), or a functional perspective (e.g., where 'prostitution' is regarded an outlet for marriage (Davis 1971)). One approach in medical sociology is to relate social variables such as age, sex, socio-economic status, racial/ ethnic group identity, education and occupation with health (health determinants) in order to assist health practitioners in managing these problems. Noting the link of social conditions, lifestyles (including medical practice as a form of human behaviour) and health, it is hoped that the health providers and policy-makers will recognise the social and medical nature of measures undertaken to improve health; for example, it has been suggested that an improved nutrition for mothers and infants accounted for the majority of decline in infant mortality (McKeown 1979).

Although the radical feminists are insightful in examining the issue of social injustice in relation to the female body, a number of assumptions have been made in their ways of looking at the meaning of sex among these women, which are questionable. First of all, the meaning of sex is not fixed but multiple, and is deeply implicated in structures of power and inequality (Vance 1994; Weeks 1986). It is also very culturally sensitive. The assumption that these women have many choices in sex work is groundless. It is shown in the focus group discussions of this study that many of these so-called 'choices' are an illusion only. How one ends up in any particular occupation is one matter but how one is treated while doing a certain job is another. It is therefore arguable that what should be abolished is not sex work *per se* but the poverty, poor working conditions, abuse and despair that are usually associated with it. Sex workers, like other workers, want to change their circumstances without necessarily changing their trade (Pheterson 1996). Instead, it is precisely this limited definition of sex work (whether celebrating or condemning it) that promotes the 'Madonna/ whore' dichotomy. It does this by marginalising the latter as self-selected cases, which adds to the stigma of a 'whore'.

4. My role as a General Practitioner in the Health of FSWs

Graduated at the University of Edinburgh in 1993, I completed the General Practice Vocational Training Programme at St. Thomas' Hospital, London. In 2000-1, I was selected by Volunteer Service Overseas, UK for a job in reproductive health in China. First, I worked in Yunnan Reproductive Research Institute to review and revise a national curriculum on reproductive medicine. I also participated in a micro-credit project aimed at promoting reproductive health in rural China and was involved in teaching rural women on health issues. I started to work with FSWs when I was appointed the Medical Consultant for Save the Children, China to help them set up an HIV/ STI clinic and provide HIV prevention training for both Chinese and Burmese FSWs at Ruili (China/ Burma border). (Wong 2003; Wong and Wang 2003)

My voluntary work, for the first time, led me to have direct known contacts with female sex workers. Before taking up this assignment, I had some concerns and reservations as it might have some negative implications on me as a health professional and a family man. Having spent some time with them, I realised that underneath this 'mysterious and secretive sect' there were a group of women with little differences to the rest of the population except many got into the job due to economic reasons. I began to understand the fear and worry associated with their work and became more sensitive to the terrible

working conditions under which they had to operate. Since then, I have become actively involved in conducting research and providing a service for this group of women in both Hong Kong and China. Therefore, my personal encounters with these women may have biased me to work to improve their living and work conditions rather than as a policy-maker who has to balance the interests of various parties and stakeholders in society. I strongly believe that general practitioners (GPs) have a significant role to play in improving the health of vulnerable groups of society such as female sex workers.

5. The Role of GPs in the Health of FSWs

General Practice provides a place to which people can bring a wide range of health problems and expect in most instances that their problems can be resolved without a referral. GPs guide people through increasingly complex health care systems, including appropriate referrals for services from other health professionals and sectors. They facilitate an ongoing relationship between patients and clinicians, and foster participation by people in decision-making about their own health care. General Practice also opens up opportunities for disease prevention and health promotion as well as an early detection of problems. It is a bridge between personal care and patients' families and communities (Donaldson, et al. 1996). There is good evidence which shows that general practice can

improve the health of the poor when better health access is associated with an improved vision, more complete immunisation, better blood pressure control, enhanced dental status and reduced estimated mortality (Keeler et al 1987; Lohr 1986).

Although the general population may also experience problems with access to health care, the extremely poor health seen in FSWs highlights the magnitude and impact of the problems described (Carr, et al. 1996). In the United Kingdom (UK), a recent study of street FSWs showed that GPs were the main source of all types of care for this group of women, although the majority of them had experienced difficulty in attending the existing services due to the perceived attitudes of other patients and fear of being judged (Jeal and Salisbury 2004). Given their inconsistent use of preventive services, their contact with GPs was a vital source of help through opportunistic care and screening. The authors further argued that attempts to maximise care provided through general practice might be **most** productive. Unfortunately, Hong Kong GPs of the predominately private primary care system find little incentive to work for this sub-population and no similar study was conducted locally to find out the most effective care delivery system for these women.

Chapter Two Review of International Literature on Sex Work, 1990-2004

The aims of this chapter are to review and summarise the relevant international literature on sex work (excluding Hong Kong) and to examine how far the understandings of sex work have developed. This review is not intended to be a formal systematic review as I considered the methodological constraints, and the stringent inclusion and exclusion criteria might limit its capacity to adequately address important social science issues. Arguably, materials focused on sociology in the studied topic were more comprehensive and client-centred than those in pure medical science literature. In 2001, the Netherlands Institute of Social Sexological Research conducted a comprehensive literature review on sex work for the period 1990-2000, which was published in a peer-reviewed journal (Vanwesenbeeck 2001). In this literature review, Sociological and Psychology Abstracts were first screened and original papers were sought and then analysed. My review is effectively an extension of the above review to include sex work literature for the last fifteen years (1990-2004).

The literature search was performed in April 2005. The database used was the ProQuest Social Science Citation Index at Web of Science and the key words included 'sex work', 'prostitutes' and 'sex'. I used the OR operator to retrieve the records which contained

any one or all of these key words. The results of this search were limited to those published within the period of 2001 to 2004, and the language of the literature was further limited to English.

Sex work research is discussed under the following headings in this chapter: (1) HIV-related research (HIV/ STI prevalence rates, factors in condom use and evaluation of HIV preventive programmes); (2) Sex workers' background and motivational issues (sexual abuse, economic motives and connected factors); (3) Work related issues (working routines, risks and stresses, and managing risks, work and personal life); and, (4) Social and legal issues.

1. HIV/ STI-related Research

Of 462 relevant citations in the aforementioned databases, half of them (232) carried words such as AIDS, HIV, safe sex or condoms in their titles and many more referred to HIV-related issues in their texts. Generally speaking, aspects of individual, organisational and societal relations shaped the potential for HIV transmission. However, research among sex workers has been focused mostly on individual relationships, in particular that of the FSWs and their clients. Most of the studies were focused on

condom use and the factors determining it. Some were purely epidemiological looking at HIV and, to a lesser extent, STI rates among FSWs.

1.1 HIV/ STI Prevalence

1.1.1 Findings in North America and Europe

Table 2.1 shows the results of HIV prevalence studies in much of North America and Europe. They indicate that those sex workers who were HIV infected are primarily intravenous drug users (McKeganey 1994a; Pyett, et al. 1996; Spina,et al. 1997). There was substantial evidence that it is the injecting of drugs rather than the sex work itself that puts this group at risk. Rhodes *et al* found similar levels of HIV prevalence among drug-injecting sex workers and female drug injectors in London (Rhodes, et al. 1994). Another study from San Francisco reported that 2% of non-injecting sex workers tested were HIV positive compared to 15% of injecting drug users (Darrow, et al 1991). In the Netherlands, none of a sample of non-injecting drug-using sex workers were tested positive for HIV when compared to 30% of drug-using sex workers with a history of injecting (van Ameijden, et al. 1994). In Spain, 4% of non-injecting and 55% of injecting FSWs tested positively for HIV (Estebanes, et al. 1998) while in Italy, 39% of intravenous drug users as compared to 6% of "professional prostitutes" were HIV positive (Spina, et al. 1997).

Other researchers had shown that an "unprofessional" setting might be a risk factor. For instance, Roy et al. (2000) found that being a street youth and engaging in sex work (besides having injected drugs) was a risk factor for HIV infection in Montreal. In Kentucky, women who exchanged sex for crack (cocaine) had higher rates of STI than those who did not, attributable to higher numbers of sexual partners, higher frequency of sex, and more drug use before and during sex (Logan and Leukefeld 2000). A link between "sex for crack exchanges" and HIV risk has been further demonstrated by a number of studies from Sao Paulo, Newark, and southern Florida (Ferri and Gossop 1999; Inciardi 1995; Weatherby, et al. 1999).

There was some evidence that migrant sex workers in Europe showed relatively high levels of HIV and other STIs. A study conducted in Italy showed that a sub-sample of migrant FSWs showed a prevalence of 16% as compared to 6% among the whole group (Spina, et al. 1997). The authors further concluded that increasing prevalence rates among professional sex workers were due to an increasing entry of sex workers from "foreign countries." Obviously, the supposedly higher prevalence rates of HIV were pertained in these countries of origin (see below), and it depended on individual countries or specific regions concerned.

1.1.2 Findings in Africa, Asia and Latin America

For the non-Western world encompassing mainly the whole of Africa, Asia, and Latin America, the documentation on HIV prevalence rates among FSWs was extremely diverse. (Table 2.2) Prevalence rates were notably high in some African countries, for example, 58% among female sex workers in Burkina Faso (Lankoande, et al. 1998). In South Africa, HIV infection rates of 145 FSWs recruited from truck stations were found to be 61% among those who reported to have anal sex with their clients and 43% among those who did not have anal sex (Abdool, et al. 1998). Some African men preferred "dry sex", thus increased sex workers' risk of contracting HIV because the drying agents increase risk of lesions in the vagina as well as of condom breakage (Civic and Wilson 1995; Brown, et al. 1993). Asowa Omorodion (2000) has drawn attention to the extensive sexual networking of commercial sex workers in Nigeria and Pickerring, and another group noted the same for sex workers along the Trans-Africa highway in Uganda (Pickering, et al. 1997).

Findings in Asia as well as in Latin America showed great diversity, too. In some studies, a very low prevalence was obtained. None of 1,873 FSWs in Surabaya, Indonesia were HIV positive (Joesoef, et al. 1997) and a more recent study found a 0.5% prevalence rate of HIV among the 200 FSWs from Indonesia (Sugihantono, et al. 2003). In southern Vietnam, HIV-1 seroprevalence was found to be 5% among 968 FSWs (Thuy, et al. 1998)

whereas FSWs in Mexico reported a mere 1% of HIV prevalence rate (Uribe Salas, et al. 1997). On the other hand, Bhave et al. (1995) found a prevalence rate of 47% among FSWs in brothels in Bombay and in another study from Thailand, a 22% sero-conversion among FSWs (van Griensven, et al. 1995).

1.2 Factors in Condom Use

1.2.1 Socio-cultural Influences

Condom use was often found to be high during commercial sex in Europe and the U.S. (for an overview see McKeganey, 1994), although it seemed invariably low in various African and Asian locations (Table 2.3). Campbell (2000) found sex workers working in a South African squatter camp near a gold mine using condoms in fewer than 10% of their commercial contacts, while high levels of HIV-related knowledge but low levels of condom use were found among sex workers and their clients in Kenya (Cameron, et al. 1999). Similarly, high HIV awareness but high-risk behaviour was exhibited among sex workers in Durban, South Africa (Varga 2001). However, more recent studies found an encouraging trend of relatively high levels of condoms use among FSWs in Tansania and Uganda (Outwater, et al. 2000; Gysels, et al. 2001).

Relatively high rates of STIs and low rates of condom use have been documented among commercial sex workers in Cambodia (Morio, et al. 1999), in Madras, India (Asthana and

Oostvogels, 1996), and in Surabaya, Indonesia (Joesoef, et al. 1997). In Thailand, 73% of 239 men who had commercial and non-commercial sex in the past six months used condoms inconsistently with both types of partners (Morris, et al. 1996). Nevertheless, when Robinson and Hanenberg (1997) reviewed a number of studies from the same country, it showed the proportion of commercial sex acts protected by condoms had increased from 14% to 94% between 1989 and 1993. In terms of other STIs other than HIV, unprotected oral sex seems to be a risk factor. Wong and Chan (1999) found that the 30% of sex workers in Singapore who did not use condoms consistently when performing oral sex were 17 times more likely than others to contract pharyngeal gonorrhoea over a period of six months.

1.2.2 Theoretical Models behind Condom Use

It is important to examine how factors described in the previous section might fit in with existing models of behavioural change. Table 2.4 summarises various models explaining factors involving condom use in a commercial sex transaction. Traditional health behaviour models, such as the Health Belief Models and Theory of Reasoned Action, have often been used when studying factors in condom use and had indeed been shown to explain condom use among sex workers to a certain extent in some recent studies (e.g. Sneed and Morisky 1998). However, aspects such as subjective meanings, issues of power, actual control over the interaction, and contextual factors were insufficiently

considered in these traditional individualistic, rational models and are now often stressed as more important (e.g., Bloor, et al. 1992; Browne and Minichiello 1995; Vanwesenbeeck, et al. 1994).

An important contextual factor in determining condom use in commercial sex worldwide relates to the economic situation of the sex workers involved. In the Western world, economic incentives may sometimes play a role for FSWs, especially during periods of economic recession. However, economic hardship is a much more structural factor for many sex workers in developing countries and accordingly associated with their non-condom use. For instance, in Thailand, the pattern of maintaining strong financial ties with the family by sending income to parents, siblings and other relatives and thus, the financial pressure is very high among sex workers (Wawer, et al. 1996). This depended on the discrepancy in wealth and was especially true among those from northern Thailand. In addition, many Thai sex workers had debts to their employers, which are found to be an additional factor in their infection risk (van Griensven, et al. 1995). In Johannesburg, it was the economic hardship and consequent competition between women for clients that contributed to unsafe sex (Wojcicki and Malala 2001).

Another contextual factor playing a crucial role in condom use pertains to working locations and connected working conditions, and there were interesting differences

between the Western and the non-Western world. Condom use in the Western world seemed to be higher in indoor, organised institutions (e.g. brothels, clubs) than in outdoor and unorganised forms (e.g., street, home) (Deren, et al. 1997 for New York City; de Graaf, et al. 1996 for The Netherlands; Pyett and Warr 1997 for Australia). Indoor workers might sometimes be subjected to pressure from brothel owners to accept certain acts and violations, but street workers were more at risk because of their relatively quick working routine, a lack of negotiation time as a consequence of police control, and relative high levels of violence in the streets. In the non-Western world, particularly Asia, women working in brothels and nightclubs were found to be more infrequent condom users than so-called community-based FSWs. This has been documented in Indonesia by Joesoef, et al. (2000), in Thailand by van Griensven, et al. (1995) and by Kilmarx, et al. (1998), in Cambodia by Prybylski and Alto (1999), and for Southern Vietnam by Thuy, et al. (1998). The authors explained this by the fact that brothel-based sex workers, often originally from rural areas and also living in these brothels, remained in a situation of relative isolation and relatively little freedom in decision making in comparison to women working from their own houses. In addition (and in connection to that), brothel-based women were often younger, from lower social-economic strata, less experienced than their community-based colleagues, and working in the bigger cities relatively shortly.

Control over interaction and negotiation with clients appears to be crucial. Wong and colleagues (Wong, et al. 1994, Wong, et al. 1995) identified low self-efficacy, lack of condom negotiation skills, and barriers such as fear of annoying clients as reasons for not using condoms among female brothel-based sex workers in Singapore. Commonly, many sex workers were misled to believe that regular clients are safe. Others were fully passive in negotiating condom use due to their perceptions of lack of social support from peers and brothel keepers, and another group appeared to be uninterested, apathetic with fatalistic perceptions of AIDS. In the Gambia, condom use in commercial contacts decreased with the number of clients a sex worker had served: Condoms were used for 91% of contacts with the first client and declined to only 37% with the 10th or later clients (Pickering, et al. 1993).

In short, both factors in behavioural models as well as contextual factors should be considered in a sophisticated human relationship practice such as condom use. Equally, it is important to consider what might have stopped the sex workers from using condoms.

1.2.3 Factors associated with Unprotected Sex

Table 2.5 summarises the literatures on factors in unprotected sex. When "professionalism" entailed an all too client-friendly attitude, selective risk-taking was likely. Relatively unselective risk-taking and thus higher risk was associated with more

negative working attitudes and less identification with the professional group, less favourable working conditions, higher financial need, lower levels of well-being and job satisfaction, and higher rates of victimisation (both off and on the job). Alegria et al. (1994) and Burgos, et al. (1999) found an association between depressive symptoms, drug use, and HIV infection risk behaviour among Puerto Rican sex workers. In another study of 51 FSWs from London, alcohol consumption was found to correlate with unprotected sex (Gossop, et al. 1995). Drug- and alcohol-using sex workers, in general, may be more subjected to economic incentives for non-condom use.

Furthermore, there was strong evidence that sex workers within the context of their private sexual lives might be more at risk of HIV infection other than those related to their work (Albert, et al. 1998; Frits, 1998; Jackson and Highcrest, 1996; Joffe and Dockrell, 1995; Pyett, et al. 1996; Taylor, et al. 1993; Walden, et al. 1999; Weir, et al. 1999). In addition to reasons for non-condom use that applied to everyone, condoms might become the symbol of detachment- a division of business and non-businesslike sex for these women, and the contrasting need and desire for intimacy, which might serve as an extra barrier to condom use in their private, non-paying encounters. In Brazil, Lurie et al. (1995) identified another important factor in differential commercial versus private risk. In that cultural setting, they found that sex workers were thrice as likely to have

feared violence from their own partners if they had insisted on condom use when compared to their clients (74% vs. 23%).

1.3 Evaluation of HIV/ STI Prevention Programmes

Many investigators have reported on the effects of STI/ HIV prevention programmes aimed at sex workers and their clients (Table 2.6). Sometimes success was reported. Examples were: Levine et al. (1998) showed that the implementation of an outreach intervention programme, in which female sex workers were counselled, in Bolivia in the 1990s resulted in a strong decline in the prevalence of STIs and doubled condom use among the target group. In Singapore, another group developed and evaluated the sustainability of an intervention programme focusing on developing sex workers' negotiation skills, educating clients, and mobilising support from peers, brothel owners, and health staff in promoting condom use among brothel sex workers (Wong, et al. 1998). It was found that negotiating skills had improved when compared to those of the control group. Consistent refusals of unprotected sex in the intervention group increased from 44% at baseline to 74% at 1 year and 91% at 2 years follow-up with a corresponding decline in gonorrhoea. Singh and Malaviya (1994) found increased condom use and no increase in HIV prevalence between 1988 and 1990 among female sex workers in Delhi, India, after an intervention programme including group discussion, poster distribution, peer counselling, and video presentations regarding safe sex. In Thailand, effective

governmental interventions encouraging the use of condoms in commercial sex are claimed to have increased the proportion of commercial sex acts protected by condoms (Hanenberg and Rojanapithayakorn 1998). Also in Thailand, a specific intervention programme including training sessions with peer educators proved successful in that it had increased the percentage of sex workers refusing unsafe sex (even when the client offered to triple the price) from 42% to 92% (Visrutaratna, et al. 1995). In Malawi, the presence of peer educators was shown to lead to an increase of condom use with paying partners for both sex workers and clients, although not so with non-paying partners (Walden, et al. 1999).

In some studies, researchers have addressed the role managers of establishments could play in promoting condom use. Morisky et al. (1998) argued, for instance, that in the Philippines, intervention programmes should address changes in establishment policies and expectations. In Thailand, a structured approach to educate brothel managers to adopt a condom-only policy is an effective way to increase condom use (Sakondhavat et al. 1997). However, in Bombay (India) concerns about losing business among mama sans as well as sex workers themselves tempered the positive effects of an AIDS prevention intervention programme (Bhave, et al. 1995).

Intervention programmes other than educational ones had sometimes proven successful too. Free methadone maintenance appeared to reduce drug use and commercial sex activities among heroin-addicted street FSWs (Bellis 1993). Bell and Brady (2000) have made a plea for "modest monetary incentives" to stimulate attendance at STI clinics, a policy that apparently resulted in good results among street sex workers in Sheffield, UK. Pickering, Quigley et al. (1993) suggested that the distribution of free condoms, rather than the provision of lengthy individual counselling, was needed in areas with scarce resources, such as The Gambia. The integration of HIV prevention programmes in more general health services for migrant FSWs in Europe with cultural mediation through peer educators has been shown to be very effective. Another integrated programme addressing benefits (welfare), parenting skills, health care, housing, counselling and therapy resources, and education for sex workers with children in the UK had changed their attitudes and increased emotional and practical support among the members of the group (Hardman 1997).

Evans and Lambert (1997) noted from their qualitative data gathered among sex workers in Calcutta (India) that above measures were not always a guarantee for effective treatment of STIs or prevention of HIV infection. They found that "treatment compliance" was a significant problem for women who were poor, were always pressed for time, had few sources of social support, and had to rely on their own (health-

endangering) work to survive. Thus, services were frequently switched in the middle of treatment if a "cure" was not immediately forthcoming, dose schedules were followed erratically, and women tended to stop taking their medicines as soon as they had become asymptomatic. The authors recommended that all research and intervention programmes should directly address the socio-economic context of women's lives in order to improve women's health in the longer term. Drawing on their experiences in Madras (India) they concluded that community-based HIV/ AIDS prevention strategies had to be seen as a integral part of, not a substitute for, efforts to bring about comprehensive changes in the social, economic, legal, and political structures that lead to disempowerment in the first place (Asthana and Oostvogels 1996). Programmes targeting sex workers must be tailored to the prevailing socio-cultural conditions of the country concerned. Asthana and Oostvogels had fully experienced many difficulties of mobilising a community of women who are isolated, scattered and highly secretive about their work and by-passing the control of brothel-owners, procurers and pimps. In addition, too small a fee for outreach workers resulted in some of them selling the condoms they were given, outreach thus becoming just another way of making money rather than being an instrument for community empowerment.

2 Factors associated with entry into sex work

2.1 Sexual Abuse and Connected Factors

Background and motivational issues behind entry into sex work attracted a lot of interest from researchers (considerably more so than any other occupation). Most of the recent literature concerning factors in becoming a sex worker, in particular those focusing on young people in the Western world, identifies child sexual abuse and, to a lesser extent, voluntary and involuntary running away and homelessness as important factors (Shaw and Butler 1998). Comparing 42 street FSWs with 57 junior college students, a host of conditions including physical and sexual abuse, dysfunctional families, parental substance abuse, and sexual precocity appeared to be associated with entry into the sex trade. The authors concluded that, for adolescent females, "breach of family attachments appears to heighten the risk of early sexual involvements...These factors help explain the role of dysfunctional backgrounds in entry to prostitution without presupposing a role for unobservable traumas and psychiatric disturbances" (Brannigan and Van Brunschot 1997). While running away from home had a 'dramatic effect' on entry into sex work only in early adolescence among female jail detainees, childhood sexual victimisation nearly doubled the odds of entry throughout the lives of these women (McClanahan, et al. 1999). However, a recent study shows that those who have been sexually abused are at

no greater risk of becoming sex workers than of becoming students (Gibbs Van Brunschot and Brannigan 2002).

Although the weight of evidence in the literature points to the overwhelming prevalence of disruption and discord in the lives of young people involved in sex work, it is much less clear whether these problems directly cause or indirectly precipitate sex work. Shaw and Butler (1998) argue that any explanation of young people's involvement in sex work must include personal development, previous life experiences and situational factors (such as housing, unemployment, and peer groups). In addition, they warned that the narrow focus on the supply side leaves a notable gap in the literature on the role that demand plays.

2.2 Economic Motives

There is evidence that the importance of childhood sexual abuse and the situation in the family of origin was minimal in comparison to economic motives in non-Western women. Drawing on evidence from Brazil, both economic considerations and adventurousness might be of greater significance than those of social stress and abusive socialisation in explaining the ontology of female sex work (Penna Firme, et al. 1991). Migration often comes up in connection to economic motivations: In the name of tourism and development that results in unequal income distribution, loss of farmland, resettlement of

hill tribe people, and marginalisation of women, they have enormous negative impact on rural women. Mensendiek (1997) illustrated how socio-cultural (including the matrilineal family structure and women's responsibilities, the religious belief system, and the double standard of gender), economic, and environmental factors have contributed to the migration of women from rural areas of Thailand into the cities, often into sex trade. In Dakar (Senegal), women married a person against their parents' decision and thus left home; some then worked as sex workers in order to earn a living. Another reason was divorce: they entered the sex trade in order to provide the need for children or other family members (Do Espirito Santo and Etheredge 2004).

As Kempadoo and Doesema (1998) have argued, sex work across national boundaries is not new to the world. They observed that "it is virtually impossible to state with certainty that numbers have increased, given the lack of figures and documentation of what in most countries is an outlawed and underground activity, and the multiplicity of activities world-wide that constitute sex work" (Kempadoo and Doesema 1998: 15). It is very possible, however, that certain patterns of migration (e.g., from the non-Western into the Western world) have become more visible lately, resulting in an exaggeration of its increasing magnitude worldwide. For example, in Hong Kong, the vast majority of the female sex workers come from China with the number arrested by the police in violation of immigration law increasing dramatically from 3,055 in 2000 to 10,773 in

2003 (written communication from the Hong Kong Police, April 2004). It was suggested that about 40% of inmates in female prisons were sex workers who had been charged with breach of condition of stay/ soliciting for immoral purposes (AIDS Advisory Council 2006).

Economic motives and earlier victimisation could be intertwined in various ways. One background factor stressed was that sex work provided the opportunity to live an autonomous life, in which they were no longer dependent on an abusive, unreliable, or unfaithful partner. Shaver (1994) argued that partner violence is gender-based rather than work-based, in that the potential for abuse by partners was not necessarily higher than in non-commercial sexual relationships. Nevertheless, a context of economic necessity and illegality of sex work rendered sex workers (particularly migrating ones) extremely vulnerable to traffickers and other profiteers that exploited and harassed them and violated human rights in a number of ways and to different extents. As with migration patterns, patterns of trafficking and force, and the amount of violation concerned with them still remain scarcely and poorly documented in the international scientific literature (Vanwesenbeeck 2001).

3 Work-related Issues

Sex work is characterised by a "complex organisational structure" (Davis 1993: 5). However, empirical analyses of the organisational aspects, hierarchical structures or working relations in sex work are limited. When work-related issues are addressed, authors focused mostly on the daily realities, routines, and consequences of working sex, which are often conducted in the Western world only. These studies are discussed under two headings below: One addresses the recent literature on working routines, stresses and risk; and another on the management of work, risk and identity.

3.1 Sex work: Organisational Structures and Occupational Hazards (Table 2.7)

In a study looking at 105 female indoor sex workers in Holland, a large variation in working hours with an average working day of almost 9 hours was found (Venics and Vanwesenbeeck 2000). More than a third had worked more than 40 hours per week and almost half had not taken any holidays during the previous year. Clearly, notions that sex work is an easy way of earning quick money were not supported by these data.

Even though sex workers might spend many working hours just waiting for clients, it was, amongst others, the inability to predict or to control the pace of work that caused stress. Despite boredom and unpredictability, the situation demanded full attention not only to

protect oneself against possible danger, but also to maintain the professional mask and to prevent it from slipping (Brewis and Linstead 2000). Many authors have pointed out from the perspective of sex workers that their working routines and realities often carried more risks and troubles than that of HIV infection. Experiences with various forms of violence were definitely one of those. For instance, emotional and physical violence (including assault, rape, and murder) were frequently mentioned in the lives of Latina and Black drug-addicted street sex workers in Connecticut (Romero Dasa, et al 1998-1999). Miller and Schwarts (1995) found that all but one of 16 street sex workers in Los Angeles had experienced some forms of sexual assault on the job. Dalla (2000) documented common experiences of abandonment, abuse, loss, and exploitation for 43 female streetwalkers in Nebraska. Lalor (2000) found 93% of a sample of thirty 14 to 18-year-old sex workers in Ethiopia to have been beaten while working on the streets. Three out of four had been raped at least once, and one in three had become pregnant at an age of 15.

Women working on the streets are more at risk than other sex workers, both in terms of legal intervention and police arrest (Davis 1993), as well as with experiences of violence. Church et al. (2001), for instance, had recently compared street and other sex workers in this respect, and found that street workers experienced significantly more violence (in particular physical violence) from their clients than did women working indoors.

Nevertheless, among female indoor sex workers in Holland (Venics and Vanwesenbeeck, 2000), one in four of the respondents had experienced one or more forms of violence (threats, physical, sexual) on their working sites in the previous year. More than a quarter of those who had experienced violence, either directly or indirectly, reported symptoms of post-traumatic stress disorder (PTSD) at the time of the interview.

3.2 Occupational Health Issues

Farley et al. (1998), in an extensive study, investigated the incidence of victimisation and the prevalence of PTSD among 475 sex workers in five countries (South Africa, Thailand, Turkey, USA, and Sambia). Their participants (mainly women) revealed a high incidence of experiences with violence during their working lives (73% reported physical assault and 62% rape at work). In addition, current or past homelessness was reported by 72% and a problem with drug addiction by 45%. Overall, two thirds of their sample met the diagnostic criteria for a PTSD diagnosis, with no statistical significant differences between countries. The authors concluded that sex work was "an act that is intrinsically traumatising" and that "the harm of sex work is not a culture-bound phenomenon". This was consistent with another study which shows 42% of street FSWs from Washington D.C. found to meet the criteria for PTSD (Valera, et al. 2001).

It needs to be stressed that both the high incidence of violence and high levels of psychological distress does not merely relate to the nature of the work but should be considered in the context of the stigma perceived by the sex workers. From the sex workers' perspective some believed people would think that they deserved to be raped and no harm could be done to them (Miller and Schwarts 1995). In another study that compared 176 street recruited, drug-using female sex workers with 170 street recruited, non-sex trading female drug users in Harlem, it was found that sex workers were more likely to exhibit psychological distress as measured by the General Severity Index (El-Bassel, et al. 1997) among which subscales measuring interpersonal sensitivity and hostility were related to stigma. The authors thus suggested that the feeling of being stigmatised was likely to contribute to the overall psychological distress of sex workers. Additional field observations and clinical impressions led the authors to suppose that these symptoms were as likely to be attributable to sex workers' interaction with their environment as to some innate psychological condition.

As a consequence, hardly any sex workers reported being completely open about her work. The management of "double lives" was stressful and hazardous for social support structures, both within and outside the working context. Furthermore, network characteristics and dynamics, such as commercial pressures, sexualisation, and gender negotiations, tended to work against the establishment of close and supportive friendships.

In contrast with male sex workers who might be associated with biological models of masculinity and view sexual activity outside marriage as 'normal', female sex work could never be associated with biological models of femininity and female sexuality. Thus, they were more bothered than the male counterparts by stigma and labels of "deviance" and thus had to put more effort in managing their identities. The next question is: How do they cope with the stress and hazards arising from their work?

3.3 Strategies for dealing with Occupational Hazards

Many sex workers do not have any techniques to manage job-related risks and this could be dangerous as it might lead to problems such as substance abuse or low self-esteem (Sanders 2004). (Table 2.8) Conversely, a number of authors have addressed the cognitive and behavioural strategies by which women adapt to sex work, cope with the often stressful demands, and manage their stigmatised identities (e.g. Brewis and Linstead 2000; Castillo, et al. 1999; Mallory 1999). Some authors addressed drug use as a behavioural strategy, for examples, drug-using FSWs use drugs to increase confidence, control, and closeness to others, and to decrease feelings of guilt and sexual distress (Young, et al. 2000), but more often strategies described were of a cognitive nature. Browne and Minichiello (1995) described "self-programming" into a work personality, involving "switching off the true self and going into remote control mode or adopting a role". The attitude of 'looking at the positive side of an experience' was common to the

women interviewed in Tijuana, Mexico (Castillo, et al. 1999). Rewarding aspects of sex work, as brought forward by these women included the ability to be a 'good' mother providing for their children and the fulfilment that care taking and emotional maintenance of their clients brings about. This aligned with the stereotype of the 'good woman' who serves others can be seen as a "defence mechanism against the deadening professionalism of the evil whore stereotype". Thus, the same forces that propelled them into sex work (the economic necessity; having to support a family) are the ones that gave them the strength to survive its destructive aspects.

Another coping strategy conveyed by many authors is to "make out boundaries and using specific practices to reserve spaces on their bodies" (Castillo 1999). Many workers mentioned "distancing strategies", for instance, distancing from the emotional demands of the client encounter; drug use (or, on the other hand, staying absolutely sober); self-programming (like running through preparatory routines through which the role-playing becomes automatic) and internal dialogue; and the meticulous management of time and place, locating different kinds of sex in different geographical, bodily (e.g. no kissing as it is reserved for their private partner) and symbolic contexts (Brewis and Linstead 2000). In any case, 'distancing strategies' were often presented as being directly connected to the emotional work, i.e. a kind of work where one had to act in a way that was known to be false or that actually transforms one's feelings (Hochschild 1979). The consequences

of this distancing were now increasingly described in terms of depersonalisation, an aspect of what was known as 'burnout' and that refers to a cold, indifferent and cynical attitude towards one's clients. Among the factors associated with depersonalisation were negative motives to sex work, a lack of social support and experiences with violence and negative social reactions to being a sex worker. Thus, it seemed that distancing was associated with sex work under certain conditions rather than sex work in itself as certain groups of sex workers may not show elevated levels of psychological distress. For example, comparing 29 female sex workers with a community sample of age-matched women in Australia, no differences was found in their mental health either using General Health Questionnaire or in self-esteem (Romans, et al. 2001). Neither were there any differences in their assessment of their physical health or the quality of their social networks, and this was the case even while sex workers had been exposed to more adult physical and sexual abuse than the comparison group.

The work-related literature also addressed strategies to avoid work-related risks. For instance, addicted street workers would look for cues to assess the types and degree of physical and other risks a potential client might present (Weeks, et al. 1998). They relied on a combination of intuitive sense, based on significant experience and planned preparation whenever feasible, and not impeded by the stresses of addiction, to ensure the least risky environment in which to conduct sexual transactions. To some, condoms were

not only to prevent health risks, but to contain and control the sex act. It was seen as a barrier to intimacy and sensitive feelings (Sanders 2002). These strategies undoubtedly reduced risks including that of HIV transmission, although they did not eliminate them and were related to different forms of intervention. For instances, contact with sex health clinics was positively correlated with the use of the alternative sex strategy (proposing safer forms of sex) whereas contact with sex workers' organisations positively correlated with the use of the natural mode (treating safe sex as natural and expected) (Marino et al. 2000). Self-organisation was, of course, an important strategy for sex workers in general to deal with their situation. During the last decade, the growth of sex worker collectives and organisations worldwide has been substantial (e.g., Kempadoo and Doesema 1998), although self-organisation had proven to be a difficult process.

In this section, we saw a number of cognitive and behavioural strategies have been put forward to describe how sex workers coped with their stress and occupational hazards. Some of them appear rational, for example, drawing a boundary between work and personal life, whereas others are irrational (from a health prospective) and even harmful, for example, use of drugs and depersonalisation. These behaviours undoubtedly operate and interact with those allowed in society, both officially (from legal and law-enforcing authority) or socially (as a moral value and accepted behaviour). Unless these women (many got into this work 'involuntarily') realised their problems and roots of their

problems, it would be very difficult for them to modify their coping strategies into more rational and positive ones.

4. Social and Legal Issues

Lyttleton (1994) claimed that the HIV/AIDS campaign by the Thai government had encouraged the use of condoms in commercial sex but induced a pervasive sense of fear, resulting in denial and stigma for so-called "threatening agents of infection". The public discourse on sex work shows a wide variation between countries, but a depreciative and stigmatising attitude towards sex work has been voiced in many Western feminist writings. Although sex work was regarded as work by some, others stressed that it was fundamentally different from other types of work. For instance, O'Connell Davidson (1998) asserted that sex workers were not selling regular services, but an opportunity for the male clients to exert power over them. Sex workers' own reports of their feelings of power as well as other evidence (e.g., Vanwesenbeeck 1994; Wojcicki and Malala 2001) suggested that commercial sex interactions between clients and sex workers could not be simplistically understood as men having power and women being powerless. In fact, a large variety of interactions existed with respect to the power issue.

Within this group, women who chose to enter sex work and refuse victim status were more likely to be treated with disdain and loathing (e.g., Shaver 1994). The distinction between 'forced' and 'voluntary' sex work had reproduced the whore/ Madonna division within the category (Doesema 1998: 34-50). Doesema wrote, "the Madonna is the 'forced prostitute'—the child, the victim of trafficking; she who, by virtue of her victim status, is exonerated from sexual wrong-doing. The 'whore' is the voluntary prostitute: because of her transgression, she deserves whatever she gets." (1998: 47)

Therefore, the claim to combat 'trafficking' (an example of forced sex work) was thus used by many countries to initiate and to justify restrictive policies against sex workers. However, there was a growing body of evidence which shows that these laws had violated sex workers' civil and workers' rights, enhanced the power of third parties including clients, managers, pimps, traders, traffickers, and undermined sex workers' social and occupational status as well as their health and well-being (e.g., Butcher 1994: 151-8; Davis 1993; Elias, et al. 1998). At the same time, they never succeeded in reaching their goal of abolishing the sex industry. Gil and Anderson (1998) had documented a resurgence of sex work, trafficking in women and related sexual offences in China despite the government's legal efforts to control it- efforts that appeared to be often accompanied by aggressive and punitive behaviour by 'the State'. Rio (1991) reviewed studies surrounding issues of legalisation and concluded that none of the

traditional goals of imposing criminal sanctions such as deterrence and rehabilitation had resulted in a reduction in sex work. Davis (1993) referred to coercive control as a 'revolving door fiasco': "Penalising prostitutes costs the state huge sums of money for little more than a 'revolving door' situation, whereby offenders are merely recycled through the system and are out on the streets within hours."

Conversely, there was no national (or international) agreement whatsoever yet on how to deal with the many aspects of voluntary sex work, even when it was formally legalised. No norms or guidelines concerning working conditions or relations, social security or labour insurance had been agreed upon. In fact, sex workers were hardly informed about their new rights and the opportunities a legalised status could bring them. As always, the only authorities actively dealing with sex work were the tax office, the police and the immigration authorities, but commonly no coherent policies and overall responsibility were assumed by any of these authorities. An illustration of this observation was noted in Germany where sex work is legal in parts of the country and where social security and health assurance are well arranged. A total of 20% of the sex workers had no health insurance, 72% had no pension plan and 60% had no life insurance coverage (Wille and Hansen 2000). A legalised status of sex work was prerequisite for a better social position and improved working conditions of sex workers, but it certainly did not guarantee them and took a lot more to improve their social and psychological well-being.

However, "certain theoretical concepts, such as power differentials or sexual inequality, articulated by Western feminists, may be virtually unheard of in non-Western countries, where lay concerns about public decency and morality dominate the discourse" (Davis 1993). Many argued that sex work as a business is fundamentally based upon structural economic inequalities and gendered, racial power differentials so that effective change would always be limited. Some referred to the growth of moral majority opinion, the recent need to shift attention from civil rights to health issues "since AIDS", the lack of effective alliance with wider groups, its problematic relationship with the own constituency and conflicts of interest between various groups of sex workers as reasons for their social disadvantages (Davis 1993).

Stigmatised, many sex workers are reluctant to be identified as professional workers. For instance, female go-go dancers in the Philippines distance themselves from their stigmatised sex-worker identity by describing their clients as 'boyfriends' (Ratliff 1999). The author discussed the negative health implications of such a strategy, such as the women being less likely to request condom use when the relationship with their clients is socially and emotionally ambiguous. To Mexican sex workers, "while they frequently insist that prostitution is 'un trabajo como qualquier otro' (a job like any other) and while they underline their professionalism, they also move in and out of sex work with great fluidity and with little sense of themselves as a potential collective of workers. Strikingly,

the typical research framings of sex work as either a social problem or as a labour movement fall drastically short of the women's narrative reality" (Castillo, et al. 1999).

5. Summary

International researches from the early 90s have convincingly shown that sex work *per se* is not a major vector in the spread of HIV in developed regions. Condom use in commercial contacts is generally high whereas intravenous drug abuse and unprotected non-commercial sex are identified as the most important factors for HIV among female sex workers. It becomes more apparent that self-determination, autonomy and control are crucially important when it comes to HIV risks as well as their general health and well-being. However, it has been made much more difficult due to the current policies and social stigma in relation to sex work and illegal status of sex workers- issues that remain controversial even among women's right activists and sex work researchers.

Authors	Place	Study types	Populations / numbers	Key findings
McKeganey (1994a)	Data from Africa, Asia, Europe/North America, and South/Central America	Reviews studies	sex workers of different institutions across many countries	➢ HIV spread outside the drug-injecting or crack-using prostitute communities is low in Europe and North America
Pyett et al. (1996)	Victoria, Australia.	Self-administered questionnaire	271 female sex workers (aged 18-52 yrs)	➢ Major risk practices identified were injecting drug use and condom non-use with non-paying partners.
Spina,et al. (1997)	14 cities in Italy		802 female sex workers	➢ 244 out of 802 sex workers were injecting drug users (IDUs), whereas 558 were professional sex workers, defined as those who were not IDUs. ➢ Overall, 131 out of 802 were HIV positive; of the 131 HIV-positive women, 95 were IDU sex workers and 36 were professional. ➢ 176 of the professional sex workers were from foreign countries, and 29 of the 176 were HIV positive.
Rhodes (1994)	London, England	Survey-based interviews	308 female drug injectors involved in sex work and female IDUs not involved in sex work	➢ 12.9% HIV prevalence among female IDUs involved in sex work and 14.4% HIV prevalence among female IDUs not involved in sex work
van Ameijden, van den Hoek, van Haastrecht and Coutinho (1994)	Amsterdam, Netherland	Serial, cross-sectional trends and trends within individuals were determined over 7 yrs (1986-1992).	281 female drug-using sex workers	➢ Of the 231 subjects with a history of injection, 30% were HIV-positive.
Estebanes et al. (1998)	Spain	Cross-sectional study	1633 sex workers female sex workers	➢ 180 (12.6%) were HIV positive. HIV sero-prevalence was 54.7% for IDUs versus 3.7% for non-IDUs.
Roy (2000)	Montreal, Canada.	1-yr, cross-sectional, anonymous questionnaire study	909 13-25 yr olds street youth	➢ HIV prevalence was 1.9% (1.1% in females and 2.2% in male). ➢ Being over 20 yrs of age, having injected drugs, having engaged in sex work, and being born outside Canada were all independently associated with HIV infection.
Logan and Leukefeld (2000)	Kentucky	Questionnaire study	4,667 female crack users	➢ Women who exchanged sex had more sexual partners, had sex more often, used drugs before and during sex more often, and had a higher rate of sexually transmitted diseases than women who did not exchange sex.
Ferri and Gossop (1999)	Sao Paulo, Brazil	Structured questionnaire and interview	322 current cocaine users	➢ Crack cocaine users had more social and health problems and higher involvement in crime than intranasal users. These problems, compounded by the larger doses being used and their greater involvement in sex work, place crack cocaine users at higher risk from HIV infection and other sexually transmitted diseases

Inciardi (1995)	Newark	Structured interviews, and observation	17 male and 35 female regular crack users who had exchanged sex for crack	➢ Persons who exchange sex for crack do so frequently and do so through various sexual activities. ➢ Almost a third of the men and 89% of the women had 100+ sex partners during the 30-day period prior to recruitment. ➢ Of 37 subjects who received HIV test results, 31% of the men and 21% of the women were HIV seropositive.
Weatherby et al. (1999)	Rural Southern Florida.	Cross-sectional	migrant workers (aged 18-76 yrs) and their sexual partners (n = 571)	➢ Employment among men and recent drug-user treatment among men and women are positively related to crack use, as is involvement in crime and sex work ➢ Drug use and HIV prevention programs should intervene with individuals and their families and social groups.

Table 2.1 Summary of research on HIV prevalences in North America and Europe

Authors	Place	Study types	Populations / numbers	Key findings
Lankoande et al. 1998	West Africa	Cross-sectional study questionnaire, physical examination,	426 female sex workers (aged 12-50 yrs)	➢ The overall prevalence of HIV was 58.2% and 52.6% of subjects had at least 1 STI agent. ➢ The most common STIs were trichomoniasis, syphilis, and gonorrhoea.
Abdool et al. 1998	South Africa	Observational	145 sex workers recruited from truck stops	➢ 62 (42.8%) of the subjects had anal sex with their clients. ➢ The prevalence of HIV infection in these women was 61.3%, as compared with 42.7% in women who did not have anal sex.
Civic and Wilson 1995	Zimbabwe.	Focus groups	44 female HIV/AIDS peer educators who had a history of commercial sex work	➢ Drying agents had physical and psychological consequences, drying and tightening a woman's vagina, and serving as love potions to attract sexual partners and ensure their faithfulness.
Brown et al. 1993	Kananga, Zaire.	Conversations with small groups of sex workers, focus group discussions, open-ended interviews and observations in a controlled clinical setting	99 women (50 sex workers and 49 married women	➢ Subjects named over 30 procedures and substances for drying and tightening the vagina ➢ Procedures used by the women for drying and tightening the vagina may increase their risk of infection by producing visible lesions of the vagina and cervix and by causing dryness that may lead to abrasive trauma during intercourse.
Asowa Omorodion (2000)	Nigeria	Observation, group discussion, and questionnaire	adolescent and adult female commercial sex workers	➢ Study shows the extensive sexual networking of these commercial sex workers, the health implications, and the utilization of non-orthodox health services in diagnosing STIs.
Pickering et al. 1997	Uganda	Studied longitudinally over a 6-mo period	48 sex workers along trans-Africa highway., 38 potential male clients (aged 18-52 yrs)	➢ 4,573 sexual contacts of the women were recorded, and 1,621 sexual contacts recorded by the men
Joesoef et al. 1997	Surabaya, Indonesia.	Survey	1,873 female sex workers (aged 15-30+ yrs)	➢ No FSWs were HIV infected. ➢ Prevalence rate of other STIs were 48% in brothels, 42% on the streets, 16% in massage parlours, 25% in barber shops, 17% at call-girl houses, and 10% in nightclubs.
Sugihantono et al. 2003	Central Java, Indonesia,	Cross-sectional questionnaire study blood test for HIV and syphilis serologies, focus groups	200 commercial sex workers (CSWs) from two brothel communities	➢ The prevalence of syphilis and HIV were 7.5% and 0.5%, respectively.
Thuy et al. 1998)	South Vietnam	Questionnaire	968 female CSWs (aged 12-60 yrs)	➢ HIV-1 seroprevalence of subjects was 5.2%
Uribe Salas et al. (1997).	Mexico City.	Direct observation, in-depth interviews, key informants, and focus groups, blood test	Sampling frame was constructed that included bars, massage parlours, and street corners.	➢ Prevalence for Treponema pallidum, herpes simplex virus type 2, HIV, Neisseria gonorrhoeae, and Chlamydia trachomatis were 6.4%, 65%, 0.6%, 3.7%, and 11.1%, respectively.

Bhave et al. (1995)	Bombay.	Controlled intervention trial, questionnaire tested for antibodies to HIV and syphilis, and for hepatitis B surface antigen.	334 sex workers and 20 madams were recruited from an intervention site, and 207 and 17, respectively, from a similar control site,	➢ The baseline prevalence of HIV antibodies was 47% in the intervention group and 41% in the control group
van Griensven et al 1995	Thailand	Interviews, blood samples cross-sectional survey	800 female commercial sex workers	➢ The overall HIV-1 prevalence rate was 22% and showed a statistically significant decrease from 36% when the age at start of commercial sex work was between 12 and 15 years old to 11% when the age at start was 21 years or over. ➢ Working in direct service, working in the north, not being Thai, lower education, having no children and having a debt to the employer were all related to an elevated risk for HIV-1 infection in univariate analysis. ➢ In multivariate analysis, younger age at start of commercial sex work, working in direct service, working in the north and having a debt to the employer were independently associated with prevalent HIV-1 infection.

Table 2.2 Summary of research on HIV prevalences in Africa, Asia and Latin America

Authors	Place	Study types	Populations / numbers	Key findings
McKeganey (1994)	Data from Africa, Asia, Europe/North America, and South/Central America	Reviews studies	Sex workers of different institutions across many countries	➢ HIV spread outside the drug-injecting or crack-using prostitute communities is low in Europe and North America
Campbell (2000)	South African	Observational	21 FSWs (aged 19-38 yrs) working in a squatter camp	➢ FSWs reported 2-18 sex clients per week, with fewer than 10% of contacts making use of condoms.
Cameron et al. (1999)	Kenya	Cross-sectional surveys	64 17-57 yr olds commercial sex workers, truck drivers and their assistants, and young men at 3 truck stops along the Trans-Africa Highway	➢ Participants appear to have high levels of knowledge and threat, coupled with apparent low levels of efficacy.
Varga (2001)	Durban, South Africa	Questionnaires, focus group discussions and in-depth interviews	100 FSWs, 25 male trucker driver clients and 10 male personal partners.	➢ High HIV-awareness and high prevalence of risky sexual behaviour. ➢ While acutely aware of the sex industry's potential role in HIV spread, subjects chose to remain sexually involved and engage in high risk sexual practices with both professional and personal partners.
Outwater et al. (2000)	Tanzania	Situational observations, interviews, individual and group conversations, and participant observations were conducted	FSWs and other high-risk women (mean age 24 yrs)	➢ These women have different categories of partners, ranging from single-time contacts to long and enduring relationships. ➢ Since the advent of HIV/ AIDS prevention programs in Tanzania in the late 1980s, FSWs and their clients have been aware of the multiple benefits of condom use for the prevention of pregnancy and STIs including HIV, and these women often use condoms for the single-time contact.
Gysels et al. (2001)	Uganda	Interviewed using semi-structured questionnaires.	69 truck drivers, 6 middlemen and 12 FSWs in a roadside truck stop on the Trans-Africa highway	➢ Most drivers have sex when they spend the night at the truck stop, and most make use of the services of the middlemen. ➢ Most drivers claimed to use condoms during casual sex, and this was confirmed by the FSWs. ➢ General use of condoms is encouraging, particularly given the context of a culture generally opposed to condoms
Morio et al. (1999)	Cambodia	Questionnaires	200 female direct commercial sex workers, 220 indirect commercial sex workers, and 211 of their clients	➢ For direct FSW, the frequency of sexual intercourse with clients per day was higher than the number for indirect FSW. ➢ A total of 125 direct FSW and 18 intravenous drug-using FSWs answered that they used condoms every time. ➢ A total of 164 direct FSW and 70 intravenous drug-using FSWs answered that they had had STD in the past.

Asthana & Oostvogels, (1996)	Madras, India		Commercial sex workers	➢ Results showed that the organisation of the commercial sex trade in Madras is not highly conducive to collective action. ➢ The approach of strengthening community action within the context of HIV prevention is unlikely to succeed unless there are significant changes to the institutional arrangements that keep sex workers in a position of subordination and exploitation
Joesoef et al. (1997)	Surabaya, Indonesia.	Survey	1,873 female sex workers (aged 15-30+ yrs)	➢ Prevalence rate of other STIs (e.g., chlamydia and gonorrhoea) were 48% in brothels, 42% on the streets, 16% in massage parlours, 25% in barber shops, 17% at call-girl houses, and 10% in nightclubs. ➢ STI rates decreased with an increase in age, an increase in education, a decrease in the number of sex partners, and condom use in the previous week. ➢ Condom use was universally low among these FSWs, especially among FSWs from the brothels.
Morris et al. (1996)	Thailand	Behavioural survey	330 male long-haul truck drivers and 1,075 low-income men (all subjects aged 17-45 yrs)	➢ The bridge population was defined as subjects who had had both commercial sex partners and non-commercial sex partners in the past 6 months. About 17% of the FSWs were in the bridge population, and 73% of these FSWs used condoms inconsistently with both types of female partners. ➢ In addition, FSWs in the bridge population had higher rates of HIV infection than did the other FSWs
Robinson and Hanenberg (1997)	Thailand	Reviews recent data	Commercial sex workers and their male clients	➢ Condoms are now being used in most commercial sex acts in Thailand. ➢ Increased condom use between commercial sex partners has prevented many HIV infections in Thailand and has also greatly reduced the potential for the future spread of HIV infection, assuming condom use during commercial sex remains high.
Wong and Chan (1999)	Singapore	Prospective cohort study	724 female brothel-based sex workers who practiced oral sex	➢ The prevalence of consistent condom use for oral sex was 70.4% compared to 96.8% for vaginal sex. ➢ 38 (5.2%) FSWs contracted pharyngeal gonorrhoea, compared with 2.5% who contracted cervical gonorrhoea. ➢ Subjects with inconsistent condom use for oral sex were 17.1 times more likely than consistent condom users to develop pharyngeal gonorrhoea, after controlling for ethnic group, class, and number of clients

Table 2.3 Summary of research on socio-cultural influences on condom use

Authors	Place	Study types	Populations / n	Key findings
Sneed and Morisky (1998)	Philipines	Behavioural survey	1,394 Filipina sex workers (aged 15-54 yrs).	➢ Attitudes and norms were found to be predictive of behaviours as mediated through behavioural intentions supporting the validity of the Theory of Reasoned Action.
Bloor et al. (1992)	Glasgow	Informal interview	32 male sex workers	➢ Whereas psychosocial models conceive of risk behaviour as volitional and individualistic, ethnographic data indicate that the male sex workers' risk practices were constrained and emergent from the immediate circumstances of the sexual encounter. ➢ Unsafe sex was associated with client control. Safer sex was associated with countervailing prostitute strategies of influence. ➢ Data confirm the utility of self-empowerment approaches to health education
Browne and Minichiello (1995)	Australia	Semi-structured interviews detailed interviews	Semi-structured interviews with groups of sex workers, followed by detailed interviews of 10 sex workers, and follow-ups on 8 of them	➢ Clients were categorized by sex workers as "married", "easy trade", "undesirables", "sugar daddies", and "heaven trade". ➢ Commercial sex was separated from personal sex. ➢ FSWs did not negotiate safe sex; rather, they used modes of interaction which directed the encounter toward it, or else, refused to continue with the transaction
Wawer et al. (1996)	Thailand.	Quantitative, by focus group discussions and in-depth interviews	678 female commercial sex workers	➢ The majority of subjects maintained financial ties to the home by sending income to parents, siblings, and other relatives. ➢ Data suggest that FSWs were systematically recruited into sex work from villages in the North and their work enabled them to comply with traditional family support roles. ➢ The proportion of Thai men who visit brothels in addition to other sexual partners, high rates of HIV among FSWs, and inconsistent use of condoms create a complex web that accelerates the spread of the HIV epidemic in Thailand
van Griensven et al, 1995).	Thailand	Interviews, blood samples, cross-sectional survey	800 female commercial sex workers	➢ The overall HIV-1 prevalence rate was 22% and showed a statistically significant decrease from 36% when the age at start of commercial sex work was between 12 and 15 years old to 11% when the age at start was 21 years or over. ➢ Working in direct service, working in the north, not being Thai, lower education, having no children and having a debt to the employer were all related to an elevated risk for HIV-1 infection in univariate analysis. ➢ In multivariate analysis, younger age at start of commercial sex work, working in direct service, working in the north and having a debt to the employer were independently associated with prevalent HIV-1 infection.

Wojcicki and Malala (2001)	Johannesburg	Interviews	50 Black female sex-workers	➢ Factors that affected sexual decision-making and elements of the sex industry that contributed to unsafe sex, such as competition between women for clients and violence in the industry, are addressed.
Deren et al. (1997)	New York City	Interviews	3 groups of Hispanic sex workers: Dominican (77), recruited in Washington Heights, NY; Mexican (151), recruited in El Paso, TX; and Puerto Rican (48)	➢ Results indicate that the labels Hispanic and prostitute obfuscated important differences related to geographic and cultural factors. To be effective for diverse Hispanic groups, HIV prevention efforts and interventions must be based on knowledge of these differences
de Graaf et al. (1996)	Netherlands	Phone interviews	559 male clients of female sex workers	➢ Of those clients having vaginal or anal contact (91%), 14% had not always used condoms in the previous year. ➢ Compared with consistent condom users, these men were less highly educated, had twice as many commercial contacts, and had more contacts with "steady" sex workers.
Pyett and Warr (1997)	Australia		24 women (aged 14-47 yrs) working in the sex industry as street workers or in legal or illegal brothels or in escort services	➢ Brothel workers were considerably less exposed to risk than were women working on the streets. ➢ Client resistance was the major obstacle to women maintaining safe sex practices. ➢ Physical threats and isolation and lack of community support added to the difficulties experienced by women in their attempts to insist on condoms for all sex services. ➢ Youth, homelessness, and heavy drug use contributed to women being at times even more vulnerable
Joesoef et al. (2000)	Surabaya, Indonesia	STD prevalence survey	1,873 female sex workers (aged 23-29 yrs)	➢ Brothel workers had the lowest overall rates of condom prevention beliefs and behaviours, followed by street workers. ➢ Only 5% (33/692) of the brothel workers and 14% (25/177) of the street walkers had condoms in their possession at the time of the interview. ➢ During the last paid sexual intercourse, FSWs from the brothels, streets, and nightclubs used condoms infrequently (14%, 20%, and 25%, respectively). FSWs from massage parlours, barber shops, and call-girl houses were about 3-5 times more likely to use condoms than FSWs from nightclubs.
Kilmarx et al. (1998)	Thailand	Interviews, physical examination, testing for sexually transmitted diseases (STDs), and serologic testing for HIV-1 infection.	female commercial sex workers, 126 brothel-based and 159 other FSWs who worked in other venues	➢ Results reveal that the incidence of HIV-1 seroconversion in the 1st yr of follow-up was 20.3 per 100 person-years among brothel-based FSWs and 0.7 per 100 person-years among other FSWs who worked in other venues such as bars or massage parlours. ➢ In a multivariable proportional hazards model, seroconversion was significantly associated with brothel-based sex work and Chlamydia trachomatis cervical infection.

Prybylski and Alto (1999),	Phnom Penh, Cambodia	Face-to-face interviews	502 sex workers (mean age 22 yrs)	➢ Brothel-based sex workers are probably at greatest risk for acquiring HIV. They reported twice as many sexual contacts per day and used condoms less frequently than community-based sex workers. ➢ The majority of sex workers surveyed knew that condoms offered protection against HIV/AIDS, although one-quarter of sex workers did not always use condoms.
Thuy et al. (1998)	South Vietnam	Questionnaire	968 female sex workers (aged 12-60 yrs)	➢ Overall, the HIV-1 seroprevalence of FSWs was 5.2%. ➢ There was a significant association between HIV seroprevalence and the following factors: rural residence of FSWs, age greater or equal to 30 yrs, working at brothels, higher frequency of sex (greater than 20 times per week), and signs of venereal wards and genital ulcers.
Wong et al. (1994)	Singapore	Qualitative investigation	40 sex workers	➢ Five different patterns of negotiating condom use (CU) were identified: successful, unsuccessful, misinformed, passive and uninterested. ➢ The successful negotiators used several practical approaches to secure clients' compliance. ➢ Unsuccessful negotiators experienced problems such as inability to resist clients' pressure or respond to their queries. ➢ The misinformed group believed that regular clients were safe. ➢ The passive group did not negotiate CU due to their perceptions of lack of support from peers and brothel keepers, ➢ The uninterested group was apathetic with fatalistic perceptions of AIDS
Wong et al. (1995)	Singapore	Interventional study	Female brothel-based sex workers	➢ Reasons for non-condom use were found to be low self-efficacy, lack of condom negotiation skills, and barriers such as fear of annoying clients. ➢ Evaluating an educational project, the experimental group showed significant improvements in negotiation skills and outcome behaviour of always refusing sex without a condom that were supported by a decline in gonorrhoea incidence.
Pickering et al. (1993).	Gambia	Longitudinal cohort data	181 sex workers	➢ Condom use was reported for 84% of contacts with clients and 4% of the contacts with regular partners. ➢ Condom use decreased with the class of location and was lowest in the rural markets. ➢ Condoms were used for 91% of contacts with the 1st client and declined to only 37% with the 10th or later clients

Table 2.4 Summary of research on psychological factors affecting condom use

Authors	Place	Study types	Populations / numbers	Key findings
Alegria et al. (1994)	Puerto Rico	Questionnaire and blood test	127 female sex workers (aged 18-60 yrs)	➢ Data show a high prevalence of depressive symptoms for FSWs (70%) regardless of HIV infection status. ➢ Results of a logistic regression analysis indicate that the use of iv drugs and engaging in unprotected intercourse with clients are strongly associated with a high level of depressive symptoms
Burgos et al. (1999)	Puerto Rico	Comparsion study	78 street-based female adolescent sex workers (aged 13-18 yrs)	➢ Youths are more likely to experience negative health outcomes, such as unintended pregnancies and sexually transmitted infections, when they are using drugs or are depressed.
Gossop et al. (1995)	London	Observational study	51 female opiate- or stimulant-using sex workers	➢ Most subjects reported regularly using condoms with clients, but a substantial minority sometimes had unprotected sex with clients. ➢ Overall, there was no association between drug use and the likelihood of unprotected sex, but a substantial minority of subjects reported that drug use did reduce the chances that they would use a condom. ➢ Willingness to have unprotected sex for more money was linked to drinking larger amounts and drinking more often.
Albert et al. (1998)	Nevada, USA	Interview	40 female brothels sex workers (aged 19-59 yrs)	➢ Of 3,290 clients in the previous month, 2.7% were reluctant to use condoms. Of these individuals, 72% ultimately used condoms, while 12% chose non-penetrative.sex without condoms. The remaining 16% left the brothels without services. ➢ Condom use rates were markedly lower with non-paying sex partners (lovers) than with clients, suggesting that brothel sex workers may be at greater risk for acquiring HIV and other sexually transmitted diseases from lovers than from clients
Frits, (1998)		Survey	141 female commercial sex workers	➢ Commercial sex workers are significantly more likely to use condom during commercial sex with a customer, rather than relational sex with a spouse or significant other. ➢ Controlling for type of sexual partner (client verse primary partner), the odds of condom use are significantly increased by the respondents' knowledge about AIDS, level of self-esteem, and personal sense of risk of AIDS infection
Joffe and Dockrell, (1995)		Observational study	20 male masseurs and street sex workers (aged 17-36 yrs)	➢ Unsafe sex was associated with (1) a lack of perception of control in the sexual encounter, (2) attractive clients, and (3) loving relationships with non-clients. ➢ For some FSWs, unsafe sex demarcates a sphere containing a type of intimacy that is absent from their working life.
Pyett et al. (1996)	Victoria, Australia	Self-administered questionnaire	271 female sex workers (aged 18-52 yrs) working in legalized brothels	➢ Risk practices of these FSWs were relatively low. ➢ The major risk practices identified were injecting drug use and condom non-use with non-paying partners

Taylor et al. (1993)	Glasgow, Scotland	Cross-sectional study	51 adult female drug-injecting sex workers	➢ Condom use in private sexual relations was low, with only 9% of those with primary partners and 22% of those with casual partners reporting consistent use of condoms with these partners. ➢ In contrast, use of condoms for all commercial sexual encounters was almost universal. ➢ Prevalence of HIV was 2.2% for the 46 subjects who provided testable specimens
Walden et al. (1999)	Malawi	A peer-education HIV/AIDS prevention program the tools being structured questionnaires and focus group discussion	424 bar-based sex workers and 347 their potential clients (long-distance truck drivers)	➢ The presence of sex worker peer educators led to a increase in condom use with paying partners (90.3 compared to 66.7 and 76.3% in the 2 other groups--non-active and average) and increased condom distribution. ➢ Condom use with regular non-paying partners of sex workers had, however, not increased since the baseline data.
Weir et al. (1999)	Yaounde, Douala, and Cameroon	Face-to-face questionnaires	2,266 female sex workers (aged 18-45 yrs)	➢ Results show that the association between condom use and prevalent HIV infection varied for different measures of condom use. ➢ The strongest association between use and infection was for use with partners who were not clients
Lurie et al. (1995)	3 cities (Sao Paulo, Campinas, and Santos) in Brazil	Survey	600 female sex workers	➢ FSWs with a higher socio-economic status were more likely to be using condoms, pills, and injectable hormones as contraceptives than those with a lower socio-economic status. ➢ 23% of FSWs feared violence if they insisted that their clients wear condoms; 74% had similar fears regarding their non-client sexual partners.

Table 2.5 Summary of research on risk factors in unprotected sex

Authors	Place	Study types	Populations / numbers	Key findings
Levine et al. (1998)	Bolivia.	Implemented an HIV prevention intervention supported by periodic laboratory testing, and has behavioural interventions	508 female commercial sex workers (average age 24 yrs)	➢ Results reveal that from 1992 through 1995, prevalence of gonorrhoea among FSWs declined from 25.8 to 9.9%, syphilis from 14.9 to 8.7%, and genital ulcer disease from 5.7 to 1.3%. ➢ Self-reported condom use during vaginal sex in the past month increased from 36.3 to 72.5%. ➢ In 1995, HIV seroprevalence among FSWs was 0.1%
Wong et al. (1998)	Singapore	Pretest-posttest design with one intervention and another comparable control site a time series design to follow up the intervention group for 2 years	intervention site (124 brothel-based sex workers) and another comparable control site (122 brothel-based sex workers)	➢ Intervention group improved significantly in negotiation skills and were almost twice as likely as controls to always refuse unprotected sex. ➢ Gonorrhoea incidence declined considerably by 77.1% in the intervention group compared with 37.6% in the controls. ➢ Consistent refusals of unprotected sex in the intervention group increased from 44.4% at baseline to 65.2% at 5 mo, 73.6% at 1 yr, and 90.5% at 2 yrs with a corresponding decline in gonorrhoea
Singh and Malaviya (1994)	Delhi, India	Intervention, included group discussion, poster distribution, peer counselling, and video presentations regarding safe sex.	In 1988, 701 female sex workers were assessed, while in 1990, 600 FSWs were assessed, 490 of whom had participated previously	➢ Increased condom usage ➢ Prevalence of HIV infection did not increase
Hanenberg and Rojanapithay akorn (1998)	Thailand	Intervention programme		➢ The Thai authorities' programmes which encouraged the use of condoms in commercial sex were highly successful.
Visrutaratna et al. (1995)	Chiang Mai, Thailand	Intervention programme	500 sex workers	➢ A multifaceted AIDS prevention program to increase condom use included repeated small-group training sessions for sex workers in which experienced women acted as peer educators ➢ Before the intervention only 42% of FSWs refused to have sex without a condom even when the client offered to triple the price. After the intervention 92% of FSWs refused sex without a condom and 1 yr later 78% refused during the same scenario
Walden et al. (1999)	Malawi	A peer-education HIV/AIDS prevention program the tools being structured questionnaires and focus group discussion	424 bar-based sex workers and 347 their potential clients (long-distance truck drivers)	➢ The presence of sex worker peer educators led to a increase in condom use with paying partners (90.3 compared to 66.7 and 76.3% in the 2 other groups--non-active and average) and increased condom distribution. ➢ Condom use with regular non-paying partners of sex workers had, however, not increased since the baseline data.

Morisky et al. (1998)	Philippines	Baseline assessment for a community-based HIV/sexually transmitted disease (STD) prevention intervention	Commercial sex workers (aged 15-54 yrs) and managers of the establishments that employ them	➢ Findings point to the importance of an intervention that stresses changes in establishment policies and expectations as a means of reducing risk behaviours associated with HIV/STD transmission
Sakondhavat et al. (1997).	Khon Kaen City, Thailand	Implement a condom-only policy	24 brothel managers (aged 27-65 yrs)	➢ All brothel managers approved of the condom-only policy and 60-70% reported condom use with all clients. The number of clients with sexually transmitted diseases decreased but the reduction of sexually transmitted diseases among the 217 commercial sex workers (aged 14-33 yrs) was still unsatisfactory.
Bhave et al. (1995)	Bombay	Controlled intervention trial, questionnaire tested for antibodies to HIV and syphilis, and for hepatitis B surface antigen.	334 sex workers and 20 madams were recruited from an intervention site, and 207 and 17, respectively, from a similar control site,	➢ Following the intervention, women reported increased levels of condom use, and some (41%) said they were willing to refuse clients who wouldn't use them. ➢ However, both the sex workers and the madams were concerned about losing business if condom use was insisted upon.
Bellis (1993)		Free methadone maintenance	41 heroin-addicted female street sex workers	➢ 25 remained in treatment after 1 year. Their personal income from sex work and other crimes was reduced 58%; income from legal sources increased 86%. ➢ Urinalyses positive for non-prescribed drugs decreased from 80% on admission to 51%.
Bell and Brady (2000)	Sheffield, England	Intervention	street sex workers	➢ An initiative which offered a modest monetary incentive to invite attendance at a clinic for gonorrhoea screening produced significant increases in the proportion of FSWs offered appointments, booking appointments, and attending appointments
Pickering, Quigley et al. (1993)	Gambia	Intervetional	31 female sex workers, 12 HIV-positive and 19 HIV-negative	➢ Most reported high rates of condom use before counselling. ➢ In the 1st month after counselling, the overall condom use among HIV-positive subjects increased by a mean of 2%, but then fell by a mean of 7.8% 2 to 5 month after counselling. ➢ Condom use by HIV-negative subjects increased 1.9% in the 1st month after counselling, and then decreased 5.5% in 2nd to 5th month. ➢ Six subjects increased their use of condoms, but 13 subjects reduced their use of condoms. ➢ The distribution of free condoms in places where sex workers are known to work, rather than the provision of lengthy individual counselling, is recommended for areas with scarce resources

Hardman (1997)		Social worker's 10-wk group program	23 prostituted women with children	➢	Program resulted in encouraging changes in the women's attitudes, and a level of commitment to the group, both in terms of emotional and practical support
Evans and Lambert (1997)	Calcutta, India	Health-seeking strategies in relation to sexual health Data were gathered through participant observation, observation in a health clinic, narrative interviews, and randomly convened group discussions	FSWs	➢	In the urban context where health services are readily available, patterns of initial treatment-seeking were shown to be generally (biomedically) appropriate, but subsequent "non-compliant" therapeutic practices give cause for concern.
Asthana and Oostvogels (1996)	Madras, India	Intervention	Commercial FSWs	➢ ➢	Results showed that the organisation of the commercial sex trade in Madras is not highly conducive to collective action. The approach of strengthening community action within the context of HIV prevention is unlikely to succeed unless there are significant changes to the institutional arrangements that keep sex workers in a position of subordination and exploitation

Table 2.6 Summary of research on evaluation of HIV/STI prevention programmes

Authors	Place	Study types	Populations / numbers	Key finding
Brewis and Linstead (2000)	UK and Australia	Review qualitative data	Sex work	➢ Suggests that individual workers' tactics for managing the contradictions of working as a prostitute and preserving self-esteem are both similar and different, even within two broadly culturally commensurable contexts, ➢ Not all sex workers necessarily want to maintain a strict divide between work sex and non-work sex in every encounter.
Romero Dasa et al (1998-1999).	Hartford, Connecticut.	Qualitative analysis open-ended interview	9 Latina and 7 Black drug-addicted women (aged 23-39 yrs) actively involved in sex work	➢ In addition to risk of HIV and other STIs, emotional and physical violence, including assault, rape, and murder, figured prominently in subjects' lives. ➢ Daily exposure to street violence, coupled with demands of a drug habit and limited economic possibilities, often hindered FSWs' efforts to protect themselves against HIV infection.
Miller and Schwarts (1995)	Los Angelas	Interviews	16 street sex workers.	➢ Results revealed an enormous amount of rape and violence against these women; 93.8% of FSWs had experienced some form of sexual assault. ➢ Four themes emerged from the interviews: that people often see sex workers as 'unrapeable'; that people believe that no harm is done to sex workers; that sex workers deserve to be raped; and that all sex workers are the same.
Dalla (2000)	Nebraska	Intensive interviews	43 streetwalking sex workers (aged 19-56 yrs)	➢ Subjects shared common experiences of abandonment, abuse, loss, and exploitation. ➢ Childhood sexual abuse was described by the majority of subjects, as were literal (e.g., through desertion) or symbolic (e.g., through parental alcoholism/ neglect) abandonment. ➢ Other themes included removal from, or intentionally leaving (i.e., running away), their families of origin. ➢ Involvement in sex work for many began out of economic necessity or was due to drug addiction.

Lalor (2000)	Addis Ababa, Ethiopia	Observational	30 14-18 yr old sex workers	➢ 22 of this sample reported being raped at least once. ➢ Eleven of this sample had been pregnant and the average age which interviewees became pregnant was 14.9 years. ➢ 93% of the sample had been beaten while working on the streets and 83% reported having things stolen from them while living on the streets.
Church et al. (2001)	Britain, in 3 major British cities. Leeds, Glasgow, Edinburgh	Questionnaire survey	240 female sex workers; 115 worked outdoors and 125 worked indoors in saunas or flats	➢ Sex workers working outdoors were younger, involved in sex work at an earlier age, reported more illegal drug use, and experienced significantly more violence from their clients than those working indoors. ➢ Sex workers working outdoors most frequently reported being slapped, punched, or kicked, whereas sex workers working indoors cited attempted rape. ➢ Working outdoors rather than indoors was associated with higher levels of violence by clients than was the city, drug use, and duration of, or age that women began sex work.

Table 2.7 Summary of research on organisational structures and occupational hazards of sex work

Authors	Place	Study types	Populations / numbers	Key findings
Sanders (2004)	large British city	10-month ethnographic study	female sex industry	➢ The risk of violence is considered a greater anxiety because of the prevalence of incidents in the sex work community. However, because of comprehensive screening and protection strategies to minimise violence, this type of harm is not given the same level of attention that emotional risks receive. ➢ Suggest that the emotional consequences of selling sex should be considered as much as the tangible, physical risks of sex work
Brewis and Linstead (2000)	UK and Australia	Review qualitative data	Sex work	➢ Suggests that individual workers' tactics for managing the contradictions of working as a prostitute and preserving self-esteem are both similar and different, even within two broadly culturally commensurable contexts, ➢ Not all sex workers necessarily want to maintain a strict divide between work sex and non-work sex in every encounter.
Castillo et al. (1999)	Tijuana	In-depth interviews	30 prostitute women	➢ Interview themes include the economic necessity of working in sex work in order to support a family and the importance of maintaining a focus on the family when working so as to preserve their health and self-respect; and techniques for creating personal comfort zones in the midst of the tense, uncertain environment
Mallory (1999)	Europe	Interview	Twelve women, who trade sex for survival requirements	➢ Survival sex directly and indirectly exposed these women to risks of violence, addiction, sexually transmitted infections and the human immunodeficiency virus. ➢ Mitigating these risks is a process of awakening, in which women become conscious of the risks they face and make decisive changes in their behaviour, including the stopping of drug use and leaving sex work. ➢ Women entering sex work go through a process of conforming to the work, and developing a specific set of attitudes and behaviours that facilitate doing the work.
Young et al. (2000)	US	Interview and questionnaire	203 prostituting African American women who smoke crack cocaine (aged 19-48 yrs)	➢ Women who were prostituting, in contrast to those who were not, were found to have a significantly higher severity of drug use and were significantly more likely to use drugs to increase confidence, control, and closeness to others and to decrease feelings of guilt and sexual distress. ➢ Sex workers likely increase their drug use in order to deal with distress caused by activities associated with their occupation.

Browne and Minichiello (1995)	Australia	Semi-structured interviews detailed interviews	Semi-structured interviews with groups of sex workers, followed by detailed interviews of 10 sex workers, and follow-ups on 8 of them	➢ ➢ ➢	Clients were categorized by sex workers as "married," "easy trade," "undesirables," "sugar daddies," and "heaven trade." Commercial sex was separated from personal sex. Subjects did not negotiate safe sex; rather, they used modes of interaction which directed the encounter toward it, or else, refused to continue with the transaction
Romans et al. (2001)	Australia	Interview and questionnaire survey	29 female sex workers (16-47 yrs old) and data previously collected from community samples of age-matched women	➢ ➢ ➢	There were no differences in mental health on the GHQ-28 or in self-esteem between the 2 groups. Neither were there any differences in their assessment of their physical health or the quality of their social networks. Sex workers were less likely to be married and had been exposed to more adult physical and sexual abuse than the comparison group. They were more likely to smoke and to drink heavily when they drank.
Weeks et al. (1998)	Hartford, Connecticut	Surveys and in-depth interviews	258 street- recruited women drug users	➢	Describe their various approaches to addressing multiple risks on the streets and suggest significant effort by women in these contexts to avoid the many risks they face, including HIV infection
Sanders (2002)		By verbatim evaluations	sex workers	➢ ➢ ➢	The overwhelming motivation to use condoms was not only to prevent health risks but to contain and control the commercial sex act. In business transactions the condom was seen as a barrier to intimacy and sensitive feelings. Respondents found comfort in the fact that the condom prevented the flesh of the client touching their own body, particularly internally
Marino et al. (2000)	Australian cities	Questionnaire	184 sex workers aged 18-58 yrs	➢	The length of time working as a sex worker and contact with sex work organizations and sexual health clinics appear to influence the level of agreement of using the safer sex strategies evaluated

Table 2.8 Summary of research on strategies for dealing with occupational hazards

Chapter Three Female Commercial Sex Workers in Hong Kong

1. Introduction

This chapter aims to briefly describe key features of the commercial sex industry in Hong Kong and to review literature in both social science and medical literature in this area. The literature tends to focus on the health risks of FSWs in Hong Kong and their health-related problems. I will also explore their other medical needs and discuss ways forward in Hong Kong. This chapter is based on a manuscript published in a peer-reviewed journal, Hong Kong Medical Journal (Wong and Wun 2003).

In February of 2003, I searched the MEDLINE and the EMBASE using search terms of "Hong Kong" and "sex" or "sex work". I updated these materials in April 2005 with the aforementioned medical databases as well as a social science database, ProQuest Social Science Citation Index at Web of Science when key words including 'sex work', 'prostitutes' and 'sex' were used. I used the 'OR' operator to retrieve the records which contain any one or all of these key words. In order to limit the results to Hong Kong studies only, another search using the keyword 'Hong Kong' was performed. These two results were combined using the AND operator. In order to be consistent with the literature search performed in the last chapter, the results of this search were further restricted to those published within the period between 1990 and 2004, and the language of the literatures searched was initially limited to English. The language of Chinese was added using the same search method and failed to reveal any further articles. One paper obtained from a local expert was in Chinese.

Again this review is not intended to be a systematic review as I considered the limited literature in this field, and the stringent inclusion and exclusion criteria might limit its capacity to adequately address important social science issues. After the search, only 10 relevant articles (Table 3.1) were identified, of which only two were on FSWs alone (Chan, et al. 2002; Wong, et al. 1994). I identified two more articles through my contacts working in this field (Chan, et al. 1999; Yu, et al. 1998). Details of these studies will be described below.

2. The Commercial Sex Industry in Hong Kong

The commercial sex industry is flourishing in modern Asian-Pacific cities such as Hong Kong. It was estimated that there were at least 200,000 FSWs working in Hong Kong in 2001 (Chan, et al. 2002). In the same survey of FSWs who had attended government Social Hygiene Clinic (SHC) in Hong Kong in 1999 and 2000, it was shown that about 84%- 88% were ethnic Chinese while Thai (13%; 9.4%) and Filipino (2.1%; 2.7%) were the main foreign ethnic groups. In a telephone survey of a representative sample of the Hong Kong male population aged 18-60 years, 14% of the respondents reported having visited a commercial sex worker in the previous six months (Chow 1999). According to a population census of the same year, 2,330,694 male residents aged 16-59 were residents in Hong Kong: 14% of this group equates to 326,297 people. Hence, the total population involved in the commercial sex sector, either as a worker or a client would well exceed half a million; the total financial transactions and social impact were very substantial.

In Hong Kong, sex work can take place in many forms and in many different institutions, of which street work (企街) (Figure I), single-household brothels (一樓一鳳) (Figure II), organised brothels (馬檻), massage palours (桑拿) (Figure III) and karaoke bars/ nightclubs (夜總會) (Figure IV) are

more noticeable. Of course, there are also what might be termed as 'freelance' sex workers, whose work pattern is less regular depending on their financial and emotional situations at the time. They are usually younger and typically leave schools at age of 13 or 14 years. Some work in institutions such as internet cafés or, through ICQ or agencies. Their work is much less open and volatile since many work as part-time, in and out of the trade, and are more selective of clients. They only exchange money or often, 'gifts' for sex when they meet the right clients (referred to as having a 'feel') or when they are in need of money.

There is no official figure as to the distribution of FSWs in each type of institution or in a district. (AIDS Advisory Council 2006) To add further difficulty, the high turnover rate of workers in these institutions and its volatile nature makes the mapping of sex industry virtually impossible. To give some idea of the size of the 'visible' sex work in Hong Kong: According to the record of a non-governmental organisation (NGO), Ziteng, they had helped over 3,500 street workers and 3000 single-household brothel workers in 1,200 apartments in 2003. Recently, Ziteng has started work in organised brothels which are mainly controlled by organised crime gangs; they are in contact with around 120 such institutions in Hong Kong.

3. Health Risks of Sex Workers

All papers published in relation to commercial sex and FSWs from Hong Kong are related to sexual behaviour or sexual health risks. Sex workers have long been considered to be reservoirs if not "vectors" for the transmission of STIs. Chan et al (2002) estimated point prevalence of STI among FSWs attending SHC in a decreasing order of non-specific genital infections (40.1%), trichomoniasis (2.7%), genital warts (2.0%), gonorrhoea (1.2%), genital herpes (0.6%), syphilis (0.1%) and HIV (0.1%). Of 1060 male SHC attendees surveyed in 1997, 90.6% admitted having

sex with a casual partner within the past one year and FSWs were the most frequently cited casual partners, comprising 82.3% (Chow 1999).

With the rapid increase of HIV/ STI in China, it is inconceivable that Hong Kong will be unaffected. Hong Kong male clients are more likely to report STIs (OR 4.16) if they have commercial sex in mainland China (Lau, et al. 2003). Thousands of FSWs in Hong Kong have come from mainland China and the number arrested by the police due to violations against the immigration law showed a dramatic increase from 3,055 in 2000 to 10,773 in 2003 (from the Police statistics). The STI infection rate in the mainland sex workers is high as one study of 966 sex workers in Guangzhou revealed a high STI prevalence: syphilis 14%, chlamydia 32%, Gonorrhoea 8% and trichomoniasis 12.5%. Antibodies to HIV were present in 1.4% (van den Hoek 2001). A study of 2057 female sex workers in re-education centres and prison in China painted an even more horrific picture with STI diagnosed in 70% of them with a predominance of gonorrhoea (60%) (Gil, et al.1996).

Of all the STIs, hepatitis B transmission among sex workers tended to be ignored in the literature. This viral infection is pandemic in this part of the world with 8-15% of the population having chronic infection of whom approximately 25% will die of cirrhosis or hepatocellular carcinoma (Chen, et al. 2000). It is far more infectious than the HIV infection: Using a mathematical model, it predicts that the incidence of virus transmission per 10-million RBC transfusions in hepatitis B virus is from 3.3 to 13 whereas HIV is only from 0.010 to 0.62 (Weusten et al. 2002). Testing of 100 sex workers who attended a Hong Kong SHC in 1995 showed that HBsAg was 8.7 % (6.2% for the same sex and age group in the general population, P= 0.45) and anti-HBs was 61.9% (32.6% in the comparable group, P<0.001) (Yu, et al 1998). However, this is the only local study of their hepatitis status and it is of a very limited sample size.

Condoms were not consistently used in half of the male attendees in a SHC during commercial sex whereas condom was used in less than 20% of the regular partners of these male attendees (Chow 1999). From the published literature, the proportion of FSWs who reported 'always' using condoms in Hong Kong has grown steadily (40% to 75%) (Chan, et al. 1999; Chan, et al. 2002; Wong, et al. 1994). However, on closer examination of these data, two issues arise: firstly, the proportion of condom use in oral-genital sex remained low (26.9- 33.7%) and was even lower with their regular partners (7.8%) (Chan, et al. 2002). Secondly, condoms were used in 8-30% with their regular partners (Chan et al. 1999; Chan et al. 2000). Many sex workers had no idea of how to choose and use a condom properly (Wong and Wang 2003). Drug use among sex workers in Hong Kong varies tremendously from survey to survey, ranging from 2.9% to 38.5% (Chan, et al. 1999; Chan, et al. 2000). Using a perceived behavioural control questionnaire, Chan et al. (1999) showed FSWs who were drug users were perceived to have a lower level of control over use of condoms in their clients.

4. Paucity of Data

In 1995, WHO estimated a worldwide incidence of 333 million cases of syphilis, gonorrhoea and trichomoniasis and nearly half had occurred in Southeast Asia (Gerbase 1998). There is no official record of the prevalence of STIs in Hong Kong since hepatitis B is the only notifiable STI. In Hong Kong, the total number of newly diagnosed STIs recorded by the SHC had gone up by 2.15 times between 1991 and 1998, and specific STIs such as primary syphilis had increased by 14.7 times for the same period (Tang 1999). The problem with SHC data (Chan, et al 2002) is that it may represent a small proportion of those seeking medical treatment as a survey conducted by Hong Kong Department of Health that 80% of STIs were treated by private doctors (Hong Kong STI/ AIDS Update 1998).

An analysis of 8649 consultations by the Family Medicine Diploma students and trainees working in the community between 1999 and 2002 shows that STI or related symptoms represent 1.2% of family doctors' workload in Hong Kong (Figure V), as common as dyspepsia or low back pain encountered in the primary care setting (Wong, et al. 2005). However, their sample could be a self-selected group as they tended to be symptomatic or at least a health conscious group with their median age of 30-39 years old. Non-specific genital infections could be a collection of STIs and common STIs such as Chlamydia were not mentioned in that report.

To many FSWs, HIV and STIs are not always their prime concern. For example, during the Severe Acute Respiratory Syndrome (SARS) outbreak in 2003, FSWs were caught in a very difficult dilemma. On the one hand, they are exposed to a large number of clients across society and have little say in who seeks out their services. The nature of their work involves close personal contact and it was impossible for them to follow the government's recommendations in personal hygiene and protection. At the same time, they had to continue to make a living with their work. In addition, social marginalisation and stigmatisation have caused delays and even stopped some of these resource-deprived women from seeking proper medical care and treatment (Wong and Wang 2003). These clashing interests can be a potential 'time-bomb' in the spread of SARS or any infectious disease in the community.

No research from Hong Kong has attempted to look into the life-styles of these people and how their work has affected their well-being. For example, the time they spend on waiting for clients is usually very long. This restricts them from doing any outdoor exercise or cooking at home while encouraging unhealthy life-style habits such as smoking or gambling. As some FSWs work on the street, there will be an added risk of personal security and exploitation by organised crime gangs. Self-medication and incorrect health advice from their peers such as regular blind use of antibiotics and the vaginal douche was common (Wong and Wang 2003).

Besides a health issue, commercial sex is often associated with complex socio-economic problems interwoven with poverty, drug abuse, social marginalisation and organised crime. To date, there has been no study on the relationship between FSWs' medical seeking behaviours and public and professional discrimination and policy sanctions in Hong Kong. FSWs are often forced to work underground and away from their local communities. Historical records show that sex work was frequently singled out for social control making them a distinct section of the population. This social rejection and isolation has serious repercussions on the provisions available to them and their willingness to seek medical attention.

5. Possible Strategies

5.1 At Policy Level

Globally, the epidemics of HIV among sex workers together with problems of drug use, poverty and the women's right movement have led to renewed interests in FSWs. Three strategic controls have been adopted by many governments: a law that mandates screening, increased access to health care services that are wanted by sex workers, and educational service outreach to clients, managers *(mama sans)* and partners through a network of the sex workers (Day and Ward 1997). The UK Home Office strategy paper published in January 2006 aims to achieve an overall reduction in street sex work; improve the safety and quality of life of communities affected by it, including those directly involved in street sex markets; and reduce all forms of commercial sexual exploitation (Home Office 2005). However, it was criticised by specialist services for focusing too much on issues of criminal justice and for giving less priority to the health of sex workers than before, and by health researchers for its unethical use of questionnaires and interviews (Boynton and Cusik 2006). Hong Kong has been avoiding much of these debates because mandatory screening and improved

treatment access would be regarded by many members of the public as "tolerating" if the government decriminalises sex work.

5.2 Re-organisation and Re-orientation of Existing Health Services

Many reports suggest that STI is rarely the first priority of sex workers: hence, services aimed at combating infections should adopt an increasingly holistic approach in which STI/ HIV is only part of a broader health and economic programme. Local research of sex workers on their health problems and health needs is certainly lacking and further studies are required to look into how to improve their health (sexual health included) and quality of life. Specialist outreach clinics that take services to the places where sex workers work, open at the hours suitable to them and which enable them to facilitate risk reduction relevant to their needs have been employed in other countries with great success (Day and Ward 1997). Health professionals should try to accept commercial sex as the occupation of some of their patients and approach these women's health issues sensitively. Vaccines against hepatitis B should be offered to all sex workers free of charge.

5.3 Education Strategies for Doctors

Previous studies from the UK showed that only one-third of medical schools thought that at least 80% of their medical graduates would be able to take a sexual history, perform a genital examination and have a good understanding of sexual health issues. (Adler 1986; Cowan and Adler 1994) Another study from Australia showed that the proportion of patients reporting being comfortable with students taking a sexual history ranged from 64% for female students questioning them with a doctor present to 35% for a male student questioning them alone (Ryder, et al. 2005). Comfort levels were found to be associated with the sex of the students and previous exposure to sexual health training. There is an added problem that in the Chinese culture, sex is by and large a social taboo and a subject not to be openly discussed. My experience as an undergraduate coordinator for Year 4 medical students and a committee member for Curriculum Evaluation and

Monitoring Committee at the Chinese University of Hong Kong tells me that there is only one formal seminar on management of sexually transmitted infections in the whole medical curriculum. Although no local study on this issue has been identified, I believe many physicians are unwilling to take the initiative to enquire about sexual behaviour and risks in Hong Kong. Therefore, further training for doctors to help them overcome barriers of discussing sensitive issues such as sex, STIs and condom use, at both undergraduate and postgraduate levels is urgently needed.

6. Summary

In Hong Kong, the commercial sex industry has no formal recognition by the government or the health service, yet it is an integral part of her social and economic life. Again, the understanding of the health of FSWs from the literature is very patchy and often fails to take into account the perspective of FSWs themselves, and the complex issues and problems they face. These women are no different from the rest of the population except they may have more specific health risks and needs. From this literature review, I conclude that more research is definitely needed to understand their perceptions of health and their behaviour. Health professionals should be more aware of their existence and explore different models of health care delivery to meet these women's needs.

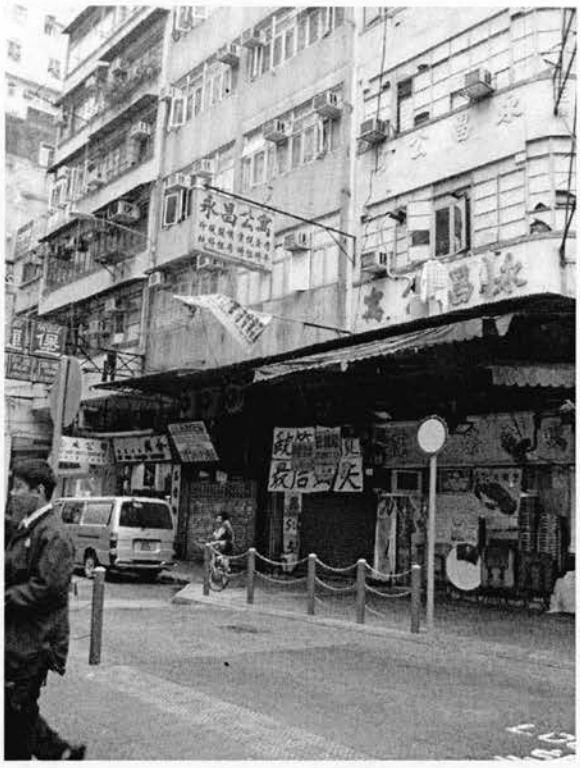

Figure I An old and run-down area in Jordon where street sex work can be commonly seen

Figure II Outside a single-woman brothel with attractive decorations

Figure III The entrance of a massage parlour

Figure IV Neon-light signs of nightclubs and karaoke bars in Jordon

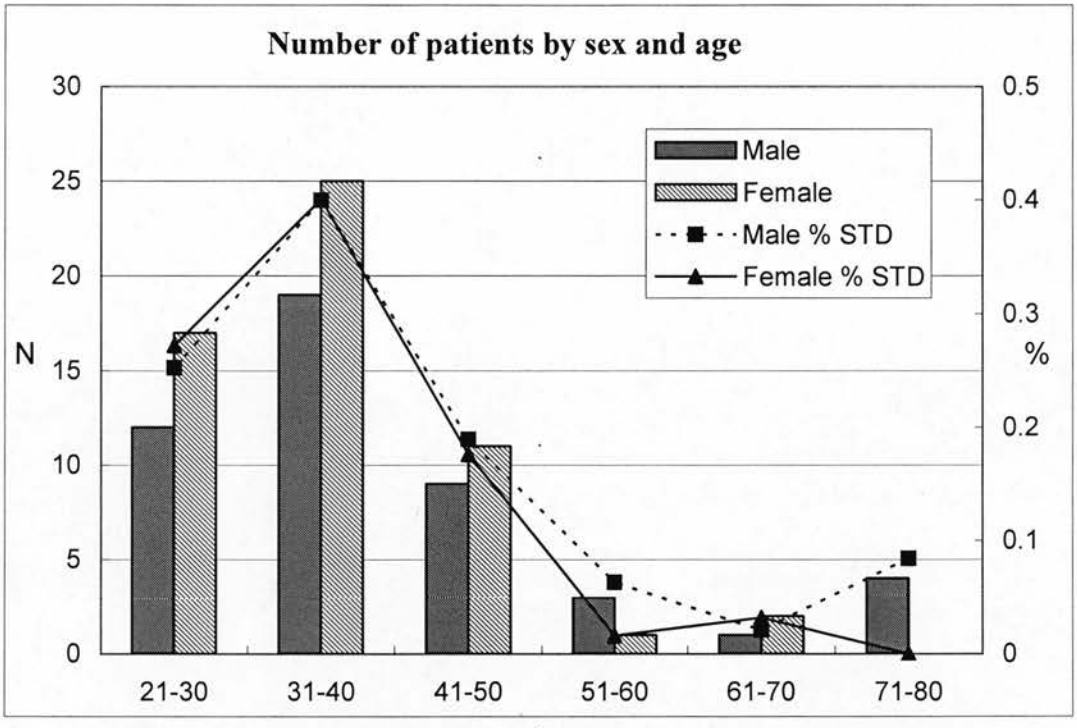

Figure V **Number of patients with symptoms of sexually transmitted infections or genito-urinary symptoms seen by GPs in Hong Kong, 1999-2002**
(Reproduced with the permission from Hong Kong Medical Journal: Wong WCW and Wun YT. Female sex workers in Hong Kong: Do we care? 2003; 9(6): 471-3 Copyright@ 2003 Hong Kong Academy of Medicine)

Study	Population	Study measures
Wong et al, 1994	FSWs* and male clients attending the Social Hygiene Clinic	Condom use
Abdullah et al, 2000	Male clients	Epidemiology of HIV infection
Lau and Siah, 2001	Male clients	Sexual behaviours
Lau and Thomas, 2001	Male clients	Commercial sex activities
Lau and Wong, 2001	Male clients	HIV prevalence
Lee and Shi, 2001	Filipino FSWs	Likelihood approach on latent quantities in AIDS prevention
Chan et al, 2002	FSWs attending the Social Hygiene Clinic	Condom use and point prevalence of STDs+
Lau and Wong, 2002	Male sex workers, men who have with men and male clients	HIV prevalence
Lau et al, 2002	Male clients	Condom use and STD incidence
Lau et al, 2003	Male clients	Condom use in China, Hong Kong, and elsewhere

+ STDs sexually transmitted diseases

Table 3.1 **Studies on commercial sex work from Hong Kong between 1996 and 2004**
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Chapter Four Aims and Objectives of the Project

1. Rationale

From the review of the development of sex work research and the publications both in Hong Kong and internationally for the previous 15 years, it becomes apparent that the focus of the range and types of sex work research has changed significantly in the HIV era. FSWs with frequent sexual contacts and partners were assumed as the bridging population of HIV infection and hence the natural target of HIV prevention. Subsequent to the continuous campaigns of use of condoms at least in the developed places (including Hong Kong) it appears that the rates of condoms use among sex workers have increased dramatically over the years and remained reasonably high, for example, at about 75% in Hong Kong (Chan et al. 2002). Instead intravenous drug use and unprotected sexual activities in those who have less negotiating power due to, for example, economic hardship have been identified as the more important risk factors for HIV infection among FSWs.

Such a misplacement of the relationship between sex work and HIV is also evident among the medical professionals in Hong Kong. Not only a literature review on Hong Kong's female sex workers indicates that there are only 12 relevant articles published locally and internationally (Wong and Wun 2003) but also they largely concentrate on STI rates and HIV/ STI prevention objectifying sex workers as reservoirs if not 'vectors' for the transmission of STI. In addition, the lack of research funding and the limited research in this area often fails to take into account the voices and perspective of sex workers as well as under-representing the complex issues and problems they face. Although mental health aspects of the sex workers were investigated at other places it was predominantly in relation to the choice for sex work rather than sex workers' actual mental well-being and work situations. Therefore different approaches were adopted in this project.

2. Aims and Objectives

After the reviews, there are a number of key issues emerged as discussed above. Therefore the major gaps of knowledge to be identified appeared to be the self-reported quality of life with special emphases on mental health and working conditions. The overall aims of the project were to improve the quality of life and the health conditions of the sex workers working in Hong Kong.

The objectives of this project included:

1. To assess the quality of life (QOL) of street FSWs in Hong Kong;

2. To explore the association between the occupation and the physical and psychological well-being of street FSWs in Hong Kong;

3. To find out the health-seeking patterns among street FSWs in Hong Kong;

4. To investigate the reasoning and thinking processes behind some of the health-related behaviours and choices made among the FSWs in Hong Kong; and,

5. To find an alternative and acceptable health service delivery model to improve the health of FSWs in Hong Kong.

The main objectives of the first part of the project were to assess the quality of life (QOL) of street FSWs in Hong Kong, and the correlation between their occupation and their physical and psychological well-being. This was done by using QOL measures described in detail in the next chapter where I will discuss why an abbreviated version of World Health Organization Quality of

Life (Hong Kong) (WHOQOL-BREF (HK)) was selected for this study and what it measured. A brief description on the validation and cultural adjustment of the Chinese version will also be given. The QOL scores of the FSWs surveyed were benchmarked to those of the Hong Kong's general female population. The null hypothesis for this study stated that there would be no difference in all four domains of the QOL scores between the sex workers and the non-sex workers. It was anticipated that these scores would help measure the impact on health beyond the presence of disease in FSWs, and would contribute to providing health resource allocation and interventions in the future.

An overview on the quality of life highlighting the problems of psychological and environmental health issues in FSWs will be reported in Chapter 8. Taking forward the findings from the survey mentioned above, a focus group discussion with 6 informants was conducted in May 2004. Using mixed qualitative and quantitative methods, I will report some of the problems the street sex workers faced when confronted with the police and clients, and describe how the environment interacted with their health.

From the initial analysis of the questionnaire I found that the psychological health of the street sex workers was much worse than that of the general public and the environment they work in was reported to be very harsh, I hypothesised that they were correlated too. Therefore, using some of the environmental factors as dependent variables, models such as ordered probit regressions, logistic regressions, and negative binomial regressions were applied to estimate the predicted probabilities of poor psychological health and suicidal risks of the female street sex workers. Based upon previous literature, we would expect a negative relationship between a dangerous working environment and psychological well-being. Conversely, social support may mediate the negative effects of stressful work environment on psychological health.

The aims of Chapter 10 were to describe the current use of health services by the street-based FSWs and to explore beliefs behind these health behaviours using the stepwise conceptual constructs (the determinant model) based on the conceptual models described in more detail in that chapter. A more complete picture would thus be unfolded with the supplementation of the focus group discussion (the pathway model). Therefore, such data was important to help devise quality health care services that are relevant and sensitive to the needs of this substantial subgroup of society and provide innovative approaches to address the health inequality experienced by this subgroup. Many problems were identified from this project such as the poor self-perceived physical and psychological health, compound by many environmental and safety issues, some of which were associated with higher probabilities of suicidal thoughts or behaviours, or poorer psychological health. I also found many problems of health-seeking behaviours including the poor utilisation of health services, widespread use of self-medicated antibiotics and lack of preventive care.

Therefore it seemed to me it was vital and crucial as a GP to find an alternative and acceptable model to improve the health of these women. From the literature outreach clinics have been shown to be successful to control STIs in FSWs (Adab and McGhee 2004). Using a decision analysis, my colleague and I demonstrated that an outreach clinic could potentially be less costly and more effective in preventing transmission of gonorrhea and chlamydia between a FSW and her clients in Hong Kong (You, et al. 2005). Nonetheless, there were possibly other problems with an outreach approach for the sex workers including acceptability, compliance for follow-ups or affordability for further investigation and management.

Therefore we started on an experimental basis an outreach well-women clinic for FSWs in which basic screening of blood pressure, weight and height as well as breast examination and Pap smear were provided in 2004. We also offered contraceptive advice and opportunistic health education on

their occupational risks. The cervical smear reagents was donated by Cytyc and conducted free of charge by a private laboratory, and we were able to offer this service free to the sex workers, with an optional high vaginal sample microscopy and culture or any other laboratory investigation charged at a discounted cost. In Chapter 11, I will report the clinical activities and the preliminary results of the outreach clinic to see if it was a feasible model. Comparing the local and non-local FSWs, I examined the potential benefits and difficulties of the outreach clinic for these different groups of women. Given the huge number of migrant workers in and from China, it is anticipated that the experience of such a health delivery model may be invaluable for policymakers and health professionals to improve the health of these women.

Chapter Five Measurement of Quality of Life in FSWs: Methodological Issues

1. Introduction to Quality of Life Measures

Measurement of QOL has grown to become a standard endpoint in many randomised controlled trials and clinical studies. In part, this is the consequence of the realisation that many treatments, especially those for long term illnesses, frequently fail to cure and there may be limited benefits gained at the expense of undergoing these unpleasant therapies. It also becomes apparent that patients should have a say in the choice of their therapy, and that some patients may place greater emphasis upon some non-clinical aspects of treatment than health professionals. Another reason for assessing QOL is to establish information about the range and degree of problems that affect the studied population, thus enabling changes to take place. QOL can be a predictor of intervention success, although it is unclear whether QOL scores reflect merely the early perception of the problem or whether QOL status in some way influences the outcome. For these reasons above, measurement of quality of life has become a standard feature of much community-based and clinical research. Investigators, funding bodies and ethical review committees often insist on its inclusion as an outcome measure.

1.1 Theoretical Models for QOL

A number of theoretical models for QOL have been proposed. The *expectations* model of Calman (1984) suggested that individuals have aims and goals in life, and QOL is a measure of the difference between the hopes and expectations of the individual and the individual's present experience. It is concerned with the difference between perceived goals and actual goals. Thus, by

improving the function of the studied population or by modifying their expectations, this gap can be narrowed.

Another model, the *needs* model relates QOL to the ability and capacity of a person to satisfy certain human needs. Therefore, QOL is at its highest when all the needs are fulfilled. The aim is to identify unmet health needs and make recommendations about ways to address these needs. 'Needs' may include many aspects such as identity, status, self-esteem, affection, love, security, enjoyment, creativity, food, sleep, pain avoidance, leisure activity, and so on. For example, the Nottingham Health Profile was devised using this model (Hunt and McKenna 1992).

Reintegration to normal living model assumes one's ability to do what one wants to do or has to do, whereas *existential* approach notes that preferences are not fixed. Rather preferences are both individual and may vary over time. It postulates that having a 'positive approach to life' can give life high quality and therefore a person's perception of their QOL can be altered by influencing his/ her existential beliefs or helping one to cope better. Patient-preference measures (as opposite to 'profile') differ from other models of QOL in that they explicitly incorporate "weighting" that reflect the importance that patients attach to specific dimensions. Different states and dimensions are compared against each other, to establish a ranking in terms of their value, or in terms of patients' preferences of one state over another. These and other utility measure approaches to QOL assessment are derived from *decision-making* theory, and are frequently employed in economic evaluation of an intervention.

1.2 Relationship between Health and QOL

Despite these conceptual frameworks, QOL is still an ill-defined term at a practical level. One of the earliest statements on health was made by WHO in 1948 (WHO 1948), in which it declared health to be "a state of complete physical, mental and social well-being, and not merely the absence of

disease". Many definitions of both 'health' and 'QOL' have been attempted, **often linking the two** and for QOL, they frequently emphasise components of happiness and satisfaction with life in health. QOL can be looked at as subjective measurement of health status assessment and symptom assessment since these are also reported by patients. It is thus not surprising that QOL means different things to different people and it takes on different meanings according to the area of application. To a retired person, for example, it might represent access to good leisure facilities and healthcare services whereas a hypertensive patient would probably like to be free of any symptoms and be able to continue his way of life without developing complications. In the context of clinical trials, QOL is typically only concerned with evaluating aspects that are affected by disease or treatment, which may sometimes extend to include indirect consequences of disease such as unemployment or financial difficulties. Therefore, health-related QOL is a more accurate description of the measurement used in these cases.

However, the respondents are usually asked to assess by subjective measures in these instruments, and often no universally understood or accepted definitions are reached for these responses. In many cases, the problem is compounded by language differences and cultural differences regarding the importance or relevance of the issues. Proxy questions and assessments are sometimes employed to reflect the latent factors of the issue concerned. In some studies, observers are used to judge the studied subject's opinions to avoid some of the aforementioned problems. However, it has been suggested that observers tend to underestimate the impact of psychological aspects but tend to emphasise the importance of the more obvious symptoms (Fayers, et al. 1991; Hays, et al. 2002).

1.3 Various QOL Measurements

It is generally agreed that relevant aspects of QOL may vary from study to study, but they can include general health, physical functioning, role functioning, physical symptoms, emotional

functioning, sexual functioning and existential issues, in which the SF-36 is by far the most popular generic health status measurement in this field (Coons and Shaw 2005: 325-38). The SF-36 produces eight multi-item scales: physical functioning, role limitations due to physical problems, bodily pain, general health perceptions, vitality, social functioning, role limitations due to emotional problems and mental health. Although there is extensive evidence supporting its internal consistence and test-retest reliability in the Chinese population, no validity as a health-related QOL is available as there is no gold standard for it to be compared with. Furthermore factor analyses of the SF-36 using an orthogonal factor rotation result in two main factors, physical and mental component summary (Ware, et al. 2001), making it the most responsive measure to record **clinical** changes (Beaton, et al. 1997).

Some QOL instruments focus upon a single concept, such as Sexual Quality of Life Questionnaire (Nicolosi, et al. 2004). Most instruments, however, include items relating to several aspects (known as 'dimensions'). For example, if emotional functioning is being investigated as one dimension of QOL, several questions evaluating anxiety, irritability and mood will be asked. Global questions (such as "How would you rate your overall quality of life?"), often regarded as too vague and unspecific on their own, are useful adjuncts to the multi-item instrument.

2. WHOQOL

Unlike most measures of health status developed in North America and the UK that were then translated and adapted for local use, WHOQOL was developed with cultural and social differences in mind. In 1995, researchers from 15 countries, under the auspices of WHO, worked together and simultaneously to develop an internationally applicable and cross-culturally comparable QOL measure (WHOQOL Group 1995). The pilot instrument included 236 items that addressed 29

facets of QOL, of which 100 items were finally selected for inclusion in the WHOQOL-100. The WHOQOL-100 has six domains- physical, psychological, independence, social, environment, spiritual- that encompasses 24 elements. Each facet is measured using four items with an additional four items on global quality of life and general health.

Although the WHOQOL-100 has been shown to be conceptually and psychometrically sound (Bonami, et al. 2000), its length makes it impractical for use in many studies such as large epidemiological studies or clinical trials. Therefore, an abbreviated 26-item version, the WHOQOL-BREF was developed. The WHOQOL-BREF contains one item from each of the 24 facets in the WHOQOL-100 and one item each for overall QOL and general health. In designing the WHOQOL-BREF, the independence and physical domains were merged, as were the psychological and spiritual domains. This results in four-domain (physical, psychological, social and environment) structure. Table 5.1 shows the domains and facets included in the WHOQOL-BREF. Initially, the WHOQOL-BREF was developed as a self-administered form, but interviewer-assisted and interviewer-administered forms are also available. Typically, the standard recall period is 'the last two weeks'.

In the WHOQOL-BREF, a likert scale of '1 to 5' is used for rating the items. '1' point was equivalent to least satisfaction/ acceptability and '5' representing greatest satisfaction/ acceptability; thus, a higher score reflects better satisfaction or acceptability to the respondent. Thus, minimum score is 28 and maximum score achievable is 140. It also produces domain scores, but unlike the WHOQOL-100, it does not produce individual facet scores. Mean scores are then multiplied by four in order to make them comparable with scores for the WHOQOL-100. Alternatively, scores may be converted to a 0-100 scale using second transformation method. The domain scores are scaled in a positive direction such that higher scores denote better quality of life.

Domain scores of the WHOQOL-BREF correlate highly (r=0.9) with scores for the corresponding WHOQOL-100 domains. In one study, similar improvement in the domain scores for both versions of the WHOQOL was observed in 50 liver transplant patients, both before and three months after the transplantation. (O'Carroll, et al. 2000) Besides, the WHOQOL-BREF domains demonstrate good reliability and validity. (The WHOQOL Group 1998) It was also found to correlate well with other assessment tools such as SF-36. (Hays, et al. 2002)

3. WHOQOL-BREF (Hong Kong)

As part of the consortium, the Hong Kong Hospital Authority formed a multi-disciplinary project team to develop the Chinese version of the WHOQOL measures for use in Hong Kong in 1995. Firstly, they translated the WHOQOL-100 facet definitions and questions into colloquial Chinese (Cantonese). Then, the team studied the cultural relevancy of the WHOQOL domain and facet structure in relation to the local Chinese culture. Both qualitative and quantitative methods were used. The qualitative work involved the examination of the translated facets and questions in focus group discussions, including four patient groups, five health professional groups and two healthy subject groups. Based on the results, an additional 13 questions (out of the fifteen piloted questions) were added after they were tested as a questionnaire in a stratified sample of 848 subjects.

The final version of the WHOQOL-BREF comprises 26 questions in the international version WHOQOL-BREF and two regional questions selected from the WHOQOL-100 (HK). A copy of the WHOQOL-BREF (HK) is enclosed as appendix 1. These two questions concerning 'eating' and 'being accepted and respected' are grouped under the Psychological domain. In the international version of WHOQOL-BREF, the questions are divided into sections and questions under the same section share the same response scale. The descriptors of the response scale are

listed at the top of a table containing all the questions in the section and the subjects are asked to check their responses in the appropriate boxes. However, in the WHOQOL-BREF (HK), the descriptors for each question contain a "qualifying" term, a verb or an adjective (e.g. satisfied, sufficient, need) specific to the core meaning of the question. This is because many translations of the leading questions for each of the sections in the international version have been tried but remained unsatisfactory to the investigating team and it was thought that the original descriptors used in the global version as they were could potentially confuse the respondents.

It is important to describe the characteristics of the WHOQOL scale and behaviour of the validation dataset samples (Leung, et al.1999), as this is what the sample size calculation of my study was based on and further comparison of the WHOQOL-BREF (HK) scores between this group and our sample was made. The patient samples were collected from 19 Hospital Authority institutions and six community rehabilitation organisations*. Patient types included cardiac patients, stroke patients, rheumatoid arthritis patients, cancer patients, diabetic patients, renal patients, burns patients and psychiatric patients. They were mainly in-patients of sub-acute and convalescent hospitals, outpatients attending rehabilitation services and ex-patients attending community rehabilitation services. In their report the team claimed they had considered and intended, by selecting a wide range of institutions, to have a good mix of subjects with different age, sex and social backgrounds.

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* Bradbury Hospice; Castle Peak Hospital / cluster day hospitals; Haven of Hope Hospital; Hong Kong Rheumatoid Arthritis Association; Hong Kong Society for Rehabilitation / Community Rehabilitation Network; Kwoloon Hospital / Jockey Club Kowloon Rehabilitation Centre; Kwai Chung Hospital / cluster day hospitals; Margaret Trench Medical Rehabilitation Centre; Maclehose Medical Rehabilitation Centre; Mental Health Association of Hong Kong / half way houses / sheltered workshops; New Life Psychiatric Association / Long stay care home / half way houses / sheltered workshops; Prince of Wales Hospital; Princess Margaret Hospital / South Kwai Chung Polyclinic; Queen Elizabeth Hospital; Queen Mary Hospital / David Trench Rehabilitation Centre; Ruttonjee Hospital ; Shatin Cheshire Home ; Tuen Mun Hospital; Tung Wah Hospital; Tung Wah Tung Hospital

Table 5.2 shows the characteristics of the subjects. About half the subjects were male with a mean age of 45.3 years. It shows that the patient subjects are quite different from the healthy ones. A higher proportion of the healthy subjects was born in Hong Kong and had obtained higher education. A convenient sample through snowballing from the friends and relatives of the investigative team was used in order to obtain the desired sample size of 155 healthy subjects.

Table 5.3 shows the domain scores and overall scores of the healthy and patient subjects. The mean domain scores of the healthy subjects ranged from 13.74 to 15.85 and the standard deviation ranged from 2.16 to 2.61. In addition, a strong correlation was found between the WHOQOL-BREF (HK) and the corresponding facet scores in the WHOQOL-100 (HK) with correlation coefficients of 0.692 to 0.892.

4. Use of WHOQOL in this study

From the review of both local and international literature as well as personal experience working with these women, it was apparent to me that FSWs had always been treated as vectors of STIs and HIV infections in the eyes of health professionals. Little attention had been paid to assess their physical, mental and social well-being holistically, and their medical needs. We wanted a generic profile health-related quality of life instrument that had been translated, validated and designed for the local cultural context rather than a disease-specific instrument. Although the SF-36 is the most widely used health-related QOL survey instrument in the world today, a great deal of emphases is placed in the physical functioning and role limitations as a result of physical health problems (16 out of the 36 items). Such emphases might not be applicable to our target population since they tended to be younger and socially active. As opposed to SF-36, the WHOQOL was developed to look at multiple aspects of quality of life in a more balanced way. It was designed to explore a

definition and construct of quality of life that could be accepted and applicable cross-culturally, allowing comparison between groups of different cultural and societal backgrounds. Another consideration was that the WHOQOL-BREF (HK) could be self-administered or administered by an interviewer- particularly appropriate for the street FSWs whose educational level was generally poor and, would find reading and understanding questionnaires difficult.

Domains	Facets addressed by single items
Physical health	Pain and discomfort
	Sleep and rest
	Energy and fatigue
	Mobility
	Activities of daily living
	Dependence on medical substances and medical aids
	Work capacity
Psychological	Positive feelings
	Thinking, learning, memory and concentration
	Self-esteem
	Bodily image and appearance
	Negative feelings
	Spirituality/religion/personal beliefs
Social relationships	Personal relationships
	Social support
	Sexual activity
Environment	Freedom, physical safety and security
	Home environment
	Financial resources
	Health and social care: accessibility and quality
	Opportunities for acquiring new information and skills
	Participation in and opportunities for recreation/leisure activity
	Physical environment (pollution/noise/traffic/climate)
	Transport

Table 5.1 Domains and facets included in the WHOQOL-BREF (HK)

	All subjects		Patient Group		Healthy subject group		
	Number	Percentage	Number	Percentage	Number	Percentage	Chi Square
Gender							
Male	425	50.1	368	53.1	57	36.8	
female	416	49.1	321	46.3	95	61.3	11.983**
missing	7	0.8	4	0.6	3	1.9	
Age							
Mean	45.3		47.73		34.09		
Standard deviation	16.07		15.81		12.02		-9.889**
Min. & Max.	12-92						(t-test)
Marital status							
Single	298	35.1	220	32	78	51.6	
Married	453	53.4	384	55.9	69	45.7	
Living together/Widowed	43	5.1	42	6.1	1	0.7	
Separate/divorced	44	5.2	41	6.0	3	2.0	26.706**
Missing	10	1.2					
Place of residence							
Hong Kong	490	57.8	368	53.9	122	80.8	
Mainland China	299	35.3	276	40.4	23	15.2	
Macau	13	1.5	10	1.5	3	2.0	
Other	32	3.8	29	4.2	3	2.0	38.975**
Missing	14	1.6					
Native provinces							
Guangdong	686	80.9	577	90.4	109	87.2	
Fuzian	32	3.8	27	4.2	5	4.0	
Zhejiang	12	1.4	10	1.6	2	1.6	
Others	33	3.9	24	3.8	9	7.2	2.993
Missing	85	10					
Education							
Primary	232	27.4	207	30.1	25	16.6	
Secondary	375	44.2	344	50	31	20.5	
Polytechnic & University	146	17.2	69	10	77	51	
Postgraduate	32	3.8	15	2.2	17	11.2	
Illiterate	54	6.4	53	7.7	1	0.7	187.957**
Missing	9	1.0					
Interview Method							
Self-administered	666	78.5	511	75.8	155	100	
Interviewer - assisted	21	2.5	21	3.1	0	0	
Interviewer - administered	142	16.8	142	21.1	0	0	46.659**
missing	19	2.2					
Current health status							
Very poor	32	3.8	31	4.5	1	0.7	
Poor	189	22.3	184	26.8	5	3.3	
Neither poor/good	264	31.1	234	34.0	30	19.9	
Good	320	37.7	221	32.1	99	65.5	
Very good	34	4.0	18	2.6	16	10.6	98.613**
Missing	9	1.1					

** Statistical significant at $p<0.05$

Table 5.2 Characteristics of all subjects (patient and healthy subgroups) in the validation dataset

Domians	Mean	SD	5%	25%	50%	75%	95%
Physical Health	15.85	2.16	12.00	14.29	16.00	17.14	18.86
Psychological health	14.69	2.61	10.00	12.67	14.67	16.67	18.67
Psychological health -HK	14.77	2.39	11.00	13.00	14.75	16.50	18.93
Social Relationships	14.26	2.39	10.67	12.00	14.67	16.00	18.67
Environment	13.74	2.45	10.00	12.00	13.50	15.60	18.00

(Male: n= 56, age= 37.43, SD= 13.48)
(Female: n= 92, age= 32.07, SD= 10.61)

Table 5.3 Domain scores of healthy subjects in the validation dataset (N=155)

Chapter Six Methods and Data Analyses

1. Summary of the Methods in the Five Following Chapters

There are mainly two research studies in this project:

Firstly a cross-sectional survey (using WHOQOL-BREF (HK)) on the quality of life of FSWs in Hong Kong was conducted to investigate the physical, psychological and environmental well-being of street FSWs. The results were then compared to those of non-sex working Hong Kong women after adjustment of age, educational level and marital status and reported in Chapter 7.

Chapter 8 focused on the effect their occupation had on their environmental health and safety. As part of the survey, a multi-faceted questionnaire comprising of 6 different domains, namely (i) health behaviour and hygiene; (ii) diet; (iii) weight and exercise; (iv) leisure activities and lifestyles; (v) environment and safety; and (vi) personal information, was conducted at the time of WHOQOL-BREF (HK). In addition, one focus group discussion was conducted to explore the complex behavioural choices and the reasons behind some of these choices.

Chapter 9 examined the following questions using the same survey: (i) What were the perceived threats from FSWs' working environment and what were their sources of stress? (ii) How was their psychological well-being and what was the prevalence of suicidality among this population? (iii) How did the characteristics of the work environment relate to psychological well-being and suicidality? (iv) What were the differences in the distribution of these variables of interest among the FSWs and those measured among the general population? To answer these questions, a number

of statistical models were used to analyse the cross-sectional data after controlling for some background characteristics.

Chapter 10 was to describe the current use of health services by the street-based FSWs and to explore beliefs behind these health behaviours using the modified stepwise conceptual constructs (the determinant model) developed by me. A more comprehensive picture will be unfolded with the supplementation of the results of the focus group discussion (the pathway model).

The purpose of the second study was to see if an outreach model could be a feasible option for early detections of pre-invasive cervical cancer in FSW. Many of these women were illegal migrant workers working in Hong Kong who were most in need of cervical screening but often deprived of such a service. High turnover rates, lack of knowledge in cervical cancer and compliance for follow-ups could potentially render such a clinical model unsuccessful. In Chapter 11, I will report the clinical activities and the preliminary results of the outreach clinic and by comparing local and non-local FSWs, I examined the potential benefits and difficulties of the outreach clinic for different groups of sex workers.

2. Sampling Frame of the Project

Sampling of the survey and focus group discussion was facilitated by an organisation known as Action For Reach Out (AFRO) which was founded by three Scottish nuns of St. Columbo's Order in 1993 and was the first local NGO to work for the rights and better health of FSWs in Hong Kong (Figures VI and VII). Over the years, it has developed an extensive outreach and personal connection network with the street FSWs. Since 2002, the organisation has operated a drop-in centre that offers these women counselling, information, referrals for mental, sexual, and emotional

health, as well as assistance in family and legal problems. The centre also offers part-time employment and on-the-job training in office work and beauty care for those who are interested in exploring future or alternative career opportunities. This approach is consistent with the WHO's description of sexual health; "the integration of the somatic, emotional, intellectual and social aspects of sexual well-being in ways that are positively enriching and that enhance personality, communication and love" (WHO 2002).

Between October 2003 and February 2004, the Chinese University of Hong Kong and AFRO conducted a survey on street FSWs in Shamshuipo, Yaumatei, Jordon and Sanpokong districts. No official mapping was available on the distribution of street sex workers in Hong Kong. According to the experience of AFRO, the above districts cover the major trade areas of the local street sex work.

The sex industry has a highly stratified, highly mobile, often illegal and fluid entity, with the street workers being in the bottom of the status hierarchy (Mouffe 1995; Seidman 1996; Bourdieu 1989; 1989). Street FSWs face different kinds of work experiences and exposure, personal circumstances, and varying degrees of exploitation by pimps or landlords when compared to their counterparts in brothels and massage parlours (Garzon Ortiz, et al. 1996; Vanwesenbeeck 1994). Street sex workers tend to be older and have less negotiating power, while their clientele are usually less educated, and/or older. Although they represent a minority of FSWs in Hong Kong, their exposure in terms of personal security demands further consideration. Heightened vulnerability to physical and psychological insecurity is in part informed by the negative reactions from the public and the media. For instance, residents from one predominately lower socio-economic public housing were reported to have engaged in a public demonstration against the presence of FSWs in their district (South China Morning Post, 2003).

With the aid of AFRO, street FSWs were recruited by way of convenience sampling (either by direct approach or word of mouth) in which they were invited to personally answer a 30-minute questionnaire administered at a private room of the AFRO drop-in centre until the estimated sample size was reached. No non-response rate was obtained in this study as it was thought that no reliable information of the non-responded sex workers could be obtained in such a setting. AFRO approached their clients from their old record, those they met on the street and through the snowballing method. Due to the sensitive nature of their work, this method of sample collection is common, as seen in a recently published article (Jeal and Salisbury 2004).

Ziteng was one of the few NGOs in Hong Kong (apart from AFRO) with an aim of helping FSWs working in Hong Kong. It was established in 1996 and has established a very good reputation and trusts among the targeted women over these years. They also have an integrated community health drop-in centre for FSWs. The centre offers them counselling, information and referral for drug and alcohol-related, mental, sexual and emotional health issues as well as for family and legal problems. Their main clients are street sex workers, single-household brothels and some organised brothels, which accounted for a major population of the regular sex workforce. Recently, they have started work in the organised brothels which are mainly controlled by organised gangsters and believe that there are around 120 such institutions in Hong Kong. The Well-women clinic was set up at Ziteng instead of AFRO because at that time AFRO did not have much experience of a health service and their Executive Board thought they were not ready to provide a comprehensive medical service.

The issue of whether sex workers provide honest accounts to researchers has been raised (Bok 1984). The best way to promote honest and accurate accounts has been shown to involve spending considerable amounts of time with the sex workers (Agustin 2004). The research team spent considerable time with the outreach team to familiarise themselves with potential respondents in

order to gain their trust. In addition, I have been providing free medical consultations and advice for sex workers at the drop-in centre the year preceding the research.

3. Sample Size Estimations

Using the standard deviation of 2.45 and an expected minimal difference of 1.2 between the two groups based on the previous validation set of WHOQOL-BREF (Table 3 of Chapter 5), the estimated minimal sample size of 86 persons in each group (sex workers and non-sex workers subjects) had 80% power and an alpha coefficient at 0.05 level to differentiate quality of life scores (WHOQOL-BREF) of the sex workers from the general population.

Therefore,

$N \geq 2\ (1.96 + 1.282)^2\ (2.45/1.2)^2 = 86$

An additional 5% was incorporated to allow for any missing data - hence there should be 90 persons in each group for comparison. This sample size calculation was based on the ability to differentiate the WHOQOL-BREF (HK) scores in the sex workers and non-sex workers. The power pertained in this estimation was only intended for tests without the Bonferroni correction and simple analyses, but not models adjusting for numerous factors.

The sample size estimation for the outreach clinic was based on the prevalence of abnormal Pap smears to be identified in the outreach clinic. From the literature review, reported abnormal smear rates among sex workers ranged from 5.6% (Chan R et al 2001) to 6.3% (Gitsch et al. 1991). Assuming we would tolerate a standard error of 0.03 with a power of 80% and an alpha coefficient at 0.05 level, we had an estimated sample size of 241:

Using this formula: 1.96^2 (1- P) (P)/ $(SE)^2$, where P is the prevalence rate of abnormal smears among FSWs and SE stands for the standard error.

4. The Measuring Instruments

The definition of QOL used in this study was "the individual's perception of her position in life in the context of the culture and the value systems in which she lives; and in relation to her goals, expectations, standards, and concerns" (WHOQOL group 1995). The questionnaire comprised two parts. The first part was the abbreviated version of the WHOQOL (WHOQOL-BREF (HK)) Measure (WHOQOL Groups, 1995; 1998) and the second part was comprised six different domains, namely health behaviour and hygiene, diet, weight and exercise, leisure activities, living environment (including personal safety, home environment and health, and social care), and personal information in order to examine the FSWs' health and lifestyles in more details.

The sections on diet, weight and exercise in the second part and additional items on and psychological health were extracted and modified from the Chinese version of Youth Risk Behavior Survey which has been validated for local use (Lee A, et al. 2001). Other questions on leisure activities and environmental safety were drafted after discussions with the outreach workers who were familiar with their lifestyles and problems faced in this area. The questionnaire was pilot-tested and face-validated among three staff at the Department and four sex workers from the target population. Questions were then modified and re-arranged for the ease of understanding and to minimise embarrassment. Participants of the pilot group would not participate in the final survey group. An English version of the questionnaire is enclosed as Appendix 2.

Drug use was not examined in this study because the previous cross-sectional study of 300 FSWs of various institutions conducted by AFRO in 2002 showed that less than 5% of participants were taking illicit drugs and none of the street workers were addicted to drugs (Ho 2002). This situation might be rather unique in Hong Kong as most street workers were from mainland China (see Table 7.1) and came to Hong Kong to work. AFRO and the researchers felt quite strongly, at the time when we designed this questionnaire, that if drugs were not a major problem in our target group, we should not ask this behaviour to reinforce the link of drug misuse and sex work, but rather devote more questions in the questionnaires to the lifestyles and leisure activities such as gambling.

Our data allowed us to distinguish various aspects of risks associated with FSW's work and work environment, which represented our main variables of interest. These variables were:

1. Previous employment status (housewife, student, employed, and unemployed);
2. Being assaulted by client (yes/no);
3. Being insulted by passer-by on the street (yes/no);
4. Having their identity card being checked frequently by the police (yes/no);
5. Being afraid of being arrested by the police (yes/no);
6. Being afraid of being infected by HIV-AIDS (yes/no).

In Chapter 9, self-reported suicide ideation and attempts were measured by a question that asked if the FSWs had ever only considered or actually had attempted to commit suicide, with 1 being "no", 2 being "yes, only considered", 3 being "yes, ever attempted suicide". The number of suicide attempts, which was measured by a question that asked the respondents the number of times she had ever attempted suicide. We also collected information on factors which prevented respondents from committing suicide and methods employed when they attempted suicide.

Information on other aspects of risks and dangers faced by sex-workers at work and their work environment was collected. These variables included: (i) personal characteristics (i.e., age, place of residence, years living in Hong Kong, and educational attainment); (ii) family characteristics (i.e., marital status and number of dependents); and (iii) social support.

5. Focus Group Discussion

The results produced in the second and fourth analyses of the first study arised from the environment and health-seeking behaviour domains of the instrument described above. However, to better understand human behaviour (for example, health-seeking behaviour), both qualitative and quantitative approaches are needed since such decision-making is usually complex- a process involves many steps and affected by many contextual factors (Ward, et al. 1997).

Focus group discussions have many advantages over in-depth interviews in that new information or a question rephrased within the group, allows the researcher to observe when opinion shift and under what influences and circumstances. It can also generate more critical comments than interviews (Watts M and Ebbutt D. 1987). For example, Geis et al (1986) in their study of partners of people with AIDS found that there were more angry comments about medical community in the group discussions than in the individual interview. However, various problems and limitations in using a focus group technique such as whether people would truthfully discuss their own perspectives when it comes to a potentially embarrassing subject such as sex. In Thomas's (1996) study of exploring young people's understanding of the relationship between sexual activities and good health, trust and experience of the researchers were found to be the key issues to overcome the aforementioned difficulties (Thomas 1996). The investigative team of the project felt they had spent considerable time with the informants both in voluntary medical consultations or during the

one-to-one questionnaire that focus group discussions could be used to encourage interaction among the informants and would be more useful in exploring people's understandings and social processes in action.

A focus group discussion was therefore conducted among the participants from the respondents to the questionnaire resulting in 6 attendees. The prime objective of the focus group discussion was to obtain accurate data on a limited range of specific issues and within a social context where this homogenous group of women consider their own views in relation to others. The questions asked in the focus group were designed to elicit an understanding of the thinking and context behind the central issues from the questionnaire. It could help to probe the underlying assumptions that gave rise to particular views and opinion. Not only people's knowledge and experience were explored, but also what people thought, how they thought and why they thought that way (Kitzinger 1996: 36-45).

Focus groups typically comprise between five to eight participants (Robinson 1999). The number of groups is guided by the *saturation* theory, for which saturation is said to occur when additional information no longer generates new understanding (Glaser and Strauss 1967). This may happen after only three sessions have been conducted within one group, but may occur in the fifth or sixth session. It is likely that research projects that comprise more heterogeneous groups will require more discussion groups. Ideally, more groups and sessions should be arranged in this study to enrich the results. Unfortunately, by the time we analysed the results of the questionnaire and prepared the semi-structured questions, very few participants from the initial respondents to the questionnaire remained in Hong Kong. It reflected the highly mobile nature of this workforce and high turnover rate of sex workers (Wong and Wang 2003).

In the focus group discussion we started off talking about how and the reasons for coming to work in Hong Kong; We explored various dangers or pitfalls working as a FSW on the streets of Hong Kong and how they had overcome with these difficulties; We discussed the sources of stress and how these stresses affected them and how they managed stress. In the questionnaire we uncovered a number of irrational health-seeking behaviours e.g. regular use of antibiotics and we asked them how various self-medications were used and to what purpose they wanted to achieve. Last but not the least we asked other aspects of their way of life such as gambling, exercise and how they saw their future. The semi-structured questionnaire is attached as Appendix 3.

I facilitated the group as the moderator while another team member acted as an observer took field notes. My task was to stimulate the informants to actively engage in the discussion of the topic. Care has been taken to attain the characteristics of a good moderator described by Dawson and his team (1993). The moderator should:

1. Be sensitive to the needs of the informants;
2. Be non-judgemental about the responses from the informants;
3. Respect the informants;
4. Be open-minded, patient and flexible;
4. Have adequate knowledge about the project; and
5. Have good listening, leadership and observation skills.

The role of the observer was to write down the informants' responses as well as observe and records non-verbal responses (such as approval, interest, boredom, impatience, resentment or anger) that might assist in understanding how participants feel about particular issues. In addition, the discussion was recorded by a tape recorder, which was later transcribed in the local dialect. The

records of the observer and tape records could supplement each other to provide an accurate and detailed record of the informants' contribution.

6. The Outreach Clinic

An outreach clinic was held at another NGO called Ziteng, which was established in 1996 to help FSWs in Hong Kong. Like AFRO, they also operated an integrated community drop-in centre for FSWs irrespective of their places of origin or right of abode. They maintained a very good network, relationship and trust with their clients who were mainly street sex workers, single-household brothels and some organised brothels accounted for the major population of the visible commercial sex workforce in Hong Kong.

From March 2004 to December 2005, the outreach workers from Ziteng invited FSWs to the twice monthly Well-women Clinic. In the clinic, they were asked to fill in a simple questionnaire regarding their lifestyles (e.g. smoking and drinking habits) and demographic details including age, place of origin, marital status and educational level. Un-identified names could be used and unlike government clinics official documents (such as passports or identity cards) were not checked. Nevertheless they were asked to leave the means of contact if they wished to be informed when the results were available. A volunteer doctor would conduct a gynaecological history including urogenital and sexual risk assessments before a physical examination that included the breast examination, measuring vital signs, a gynaecological examination with cervical Pap smears as well as relevant examinations addressing an individual's concern. Health education was given during the session and referrals if appropriate would be arranged at the end or in a subsequent visit.

Liquid-based Papanicolaou technique with CytoBrush as the sampling device was used. Samples were sent to a private laboratory accredited by NATA (National Association of Testing Authorities, Australia) and HKAS (Hong Kong Accreditation Services). The results of cervical smear were reported in Cervical Intraepithelial Neoplasia (CIN) system and Bethesda system. High vaginal swabs were requested if there was the clinical evidence of vaginitis or at the sex worker's request.

The results would be explained to the FSWs in an intended follow-up visit one to four weeks later. On some occasions when the FSW could not make a follow-up visit or had left Hong Kong, the results would also be explained by a doctor through telephone. In the event of CIN-II or -III results, a referral letter was given to the FSW to attend a gynaecologist in Hong Kong (if they could afford it) or to a gynaecologist in China. For other abnormal smear results, the FSW was offered the option of repeating another smear in three to six months or to be referred to a specialist if desired.

7. Statistical Methods and Analyses

In Chapter 7, 8 and 10 various demographic characteristics, lifestyles, and health-related issues were described using numbers and frequencies. Chi-square or independent t-tests tests were applied to see if there are any difference in terms of characteristics between FSWs and non-FSWs. Confounding factors including age, education and marital status were controlled for as covariates in the multivariate model when comparing the QOL individual and domain scores of these two groups. These were chosen because some previous studies demonstrated significant relationships between these demographic variables and QOL (e.g. Richmond 2000; McCoy and Filson 1996). Additional explanatory variables such as place of residence, number of dependents, and length of time living in Hong Kong were controlled for in the modelling used in Chapter 9 as Dr. Ling who analysed this part of the study believed that these demographic variables were confounding factors, although

places of birth which were likely to be highly correlated with the length of stay could contribute to the instability of some of these models.

The adjusted means were calculated using the regression models. For each categorical covariate of interest the adjusted means were calculated as the intercept term + the sum of the products of each other regression coefficient (those corresponding to the control covariates) multiplied by the average value of the covariate corresponding to that coefficient + the product of the coefficient and the value of the categorical covariate of interest for that category. To give a simple example, consider a regression model for an outcome y with predictors- age and gender coded as (e.g. 1 = female, 2 = male):

$E(y) = \beta_0 + \beta_1 *\text{gender} + \beta_2 *\text{age}.$

Suppose the mean age in the dataset = 30. The adjusted mean for females = $\beta_0 + \beta_1 *1 + \beta_2 *30$, while the adjusted age for males = $\beta_0 + \beta_1 *2 + \beta_2 *30$.

The statistical significant p-values after Bonferroni corrections for multiple comparisons set at p=0.0017 (0.05 divided by 28 tests in WHOQOL-BREF (HK)) were applied to minimise the probability of statistical differences found by chance in Chapter 7 and 8. All other p-values quoted throughout are nominal p-values without Bonferroni corrections.

In Chapter 9, our goal was to estimate the degree to which the probability of low psychological health scores and probability of suicide ideation and attempts vary across different work conditions using multivariate ordered probit regressions for the dependent variables that were ordinal. In addition, the threats that FSWs face, after controlling for all the other confounding variables including age, education attainment, place of residence, years living in Hong Kong, martial status,

as well as number of dependents as assessed. In particular, ordered-response models such as the ordered probit models recognise the indexed nature of the dependent variable and are appropriate in estimating dependent variables that are based upon a latent but continuous response variable. In contrast, logit or probit models neglect the data's ordinality and are more appropriate in estimating dichotomous dependent variables. We also used multivariate negative binomial regressions to model the number of suicide attempts to account for the skewed nature of the data (i.e., the infrequency of such events). As an alternative to Poisson regression, multivariate negative binomial regressions was chosen because it was intended for overdispersed count data (i.e. variance > mean) and in reality almost all count data is overdispersed.

In the regression model a pseudo R^2 statistic is applied to summarise the strength of relationship as it seeks to make a statement about the "percent of variance explained". Logistic regression does not assume linearity of relationship between the independent variables and the dependent, does not require normally distributed variables, and does not assume homoscedeasity but it requires that the independent variables be linearly related to the logit of the dependent. Such property is tested using Wald statistics which tests the significance of individual logistic regression coefficients for each independent variable (that is, to test the null hypothesis in logistic regression that a particular logit (effect) coefficient is zero). A comparison of the predicted probabilities of an outcome for particular groups of individuals with the same covariates with the actual proportion who have that outcome provides a measure of goodness-of-fit of the model- the closer the predicted probabilities are to the actual proportions the better the fit. The data of the survey was analysed using Statistical Package for Social Science (SPSS) (Version 11) except Chapter 9 when STATA statistical package (Stata Corporation, College Station, USA) was used.

A number of stages were adopted in analysing the qualitative interview data but a limited amount of materials were presented in Chapters 8 and 10: The first was to become familiar with the data as

much as possible - that is, to take part in the interview process and read the transcripts of the interviews. Using the thematic analysis of the transcription based on the *grounded theory* (Glaser and Strauss 1967), similar and important themes were drawn together and their relationship to variables within the same population were examined. Some of the themes were based on descriptive codes derived directly from responses to semi-structured interview questions while others were more interpretive based on data from a number of questions in the focus group discussion. An index of themes to be used in labelling the data was created: for example, theme 1:1, 1:2, 2:2 and so on, with an index for each code. This was done with the assistance of computer software, Atlas Ti. More than one code could be used each time if a statement contained more than one theme. Having labelled all the data, the next stage involved summarising the data on a series of charts. This process would allow me to carry out within-group interview analysis and help recognise the emerging themes grounded in the data. Finally, more detailed codes were identified before deciding on higher order headings. Quotes were translated into English and then back translated by an independent person to ensure accuracy.

In Chapter 11 we grouped those FSWs holding a visitor's visa as non-local workers. In other words new immigrants who have obtained a Hong Kong identity card would be regarded as local sex workers. SPSS Version 13.0 was used for data management and analysis in this study. Because there was only one CIN-II, we grouped it with CIN-III for statistical analysis. We used descriptive statistics for the FSWs' personal and social data and chi-square tests or independent t-tests to compare the results.

8. Ethical Considerations

A written consent of both traditional and simplified Chinese (a simplified Chinese version is attached as appendix 4) was obtained from all participants in both studies, and the Survey and Behavioural Research Committee of the Chinese University of Hong Kong had approved both studies. In the consent form, the purpose of the study was explained to a potential respondent. Potential psychological effect of the questions and sensitive nature of the questionnaire were discussed. Voluntary participation was emphasised and the participants were told they had the right to withdraw at any stage of the study. They were also told that refusal to participate would not affect their relationship with AFRO/ Ziteng or the service received at AFRO/ Ziteng. All data were kept in a locked cabinet, to be destroyed three years after the interview. Participants were informed that the data collected were for research and teaching purpose, and no information would be released so that the identity of a participating individual could be revealed. A small gift estimated to be worth £2.2 (£1=HK$13.5) was given to the participants as a token of appreciation for their participation in the survey or focus group discussion.

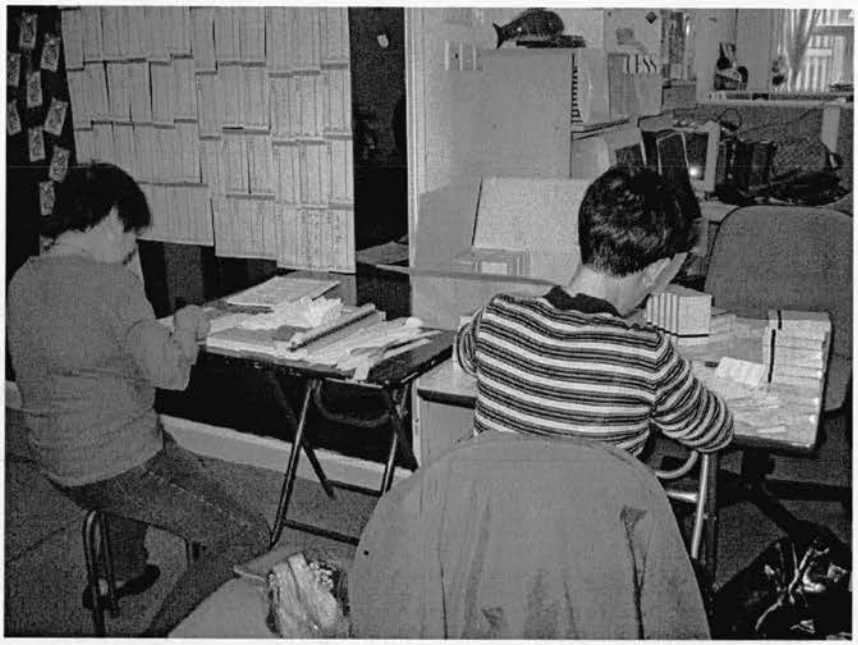

Figure VI Ex- FSWs working at AFRO rehabilitation scheme

Figure VII Outreach staff discussing work at AFRO centre

Chapter Seven The Quality of Life among Female Street Sex Workers in Hong Kong

1. Introduction

The main objectives of this study were to assess the quality of life of street FSWs in Hong Kong, and the effects of their activity on their physical and psychological well-being. The QOL scores from the women surveyed were benchmarked to those of the Hong Kong general female population. The null hypothesis for this study stated that there would be no difference in the QOL scores of sex and non-sex workers. It was anticipated that these scores would help measure the impact on health beyond the presence of disease in FSWs, and would contribute to providing health resource allocation and interventions in the future.

2. Materials and Methods

Between October 2003 and February 2004, the Chinese University of Hong Kong and AFRO conducted a survey on street FSWs in Shamshuipo, Yaumatei, Jordon, and Sanpokong districts. With the aid of AFRO, street FSWs were recruited by way of convenience sampling (either by direct approach or word of mouth) in which they were invited to personally answer a 30-minute questionnaire administered at the AFRO drop-in centre.

The questionnaire consisted of two parts. The first part was the abbreviated version of the World Health Organization QOL (WHOQOL-BREF) Measure and it comprises of 28 constructs in four major domains: physical health, psychological health, social relationship, and environment. The second part was comprised of six different domains, namely health behaviour and hygiene, diet,

weight and exercise, leisure activities, living environment (including personal safety, home environment and health, and social care), and personal information which examined the FSWs' health and lifestyles in more detail.

A Likert scale of '1 to 5' was used for rating the items. '1' point was equivalent to least satisfaction and '5' was for most; thus, a higher score reflected better satisfaction or acceptability to the respondent. This was then matched and compared with 89 non-sex workers who were randomly drawn from the community-based samples of the original validation dataset of WHOQOL-BREF (HK) after stratification according to age groups and sex (Leung, et al. 1999).

The data were analyzed using SPSS (Version 11), and various demographic characteristics, lifestyles, and health-related issues were described using numbers and frequencies. Chi-square tests were applied to test the differences in characteristics of these two groups of women, and confounding factors including age, education and marital status were controlled using the univariate general linear model. After adjustments, the items of WHOQOL-BREF (HK) which were scored by FSWs and non-sex workers were tested using t-test with p-values and 95% confidence intervals. Bonferroni corrections for multiple comparisons set at p=0.0017 (0.05 divided by 28 tests) were applied in WHOQOL-BREF (HK) items to minimize the probability of statistical differences found by chance.

3. Results

A total of 89 FSWs with a mean age of 36.1 years were recruited from the streets. Table 7.1 shows the characteristics of FSWs and non-sex workers. Despite having drawn randomly from a large population dataset, the characteristics of the two groups are very different. The majority (84%) of

FSWs had been educated to no more than junior high school (versus 40% among non-sex workers). In addition, the majority (89%) of women were from mainland China; 68 (76%) of the women had been in Hong Kong for less than one year, and 35 (39%) had been there for less than three months.

The sex workers scored 12.48, 12.12, 13.91, and 12.05 in physical health, psychological health, social relationships and environment domains respectively (Table 7.2). When compared to the non-sex workers, the FSWs scored statistically and significantly lower in physical and psychological health domains (nominal $p<0.0001$ for both domains, significant after Bonferroni correction), but not in social relationships (nominal $p=0.882$, non-significant (NS) after Bonferroni correction) and environment domain (nominal $p=0.008$, NS after Bonferroni correction). They reported an overall low satisfaction with QOL (2.66 when compared to 3.58 in non-sex workers; nominal $p<0.0001$, significant after Bonferroni correction) but a similar satisfaction with the overall health status (3.59 vs. 3.58 in non-sex workers; nominal $p=0.32$, NS after Bonferroni correction). However, detailed questioning regarding physical health revealed that FSWs were more likely to report more pain and discomfort (1.88 vs. 3.46; nominal $p<0.0001$, significant after Bonferroni correction) and be dependent on medicine (1.55 vs. 4.86; nominal $p<0.0001$, significant after Bonferroni correction) (Table 7.2). Furthermore, a total of 21% of the street FSWs reported having been ill for the last three months and more than half (53%) of the women had been ill more than once in the previous three months, but less than half (47%) had seen a doctor (Table 7.3). Among the FSWs, 14 (16%) said they were taking regular medication, 71% of them were taking over-the-counter drugs, and four of them took ciprofloxacin, a fourth generation Quinolone commonly used as a first-line treatment for chlamydia and gonorrhoea infection.

With respect to psychological health, the sex workers reported less enjoyment of life (1.98 vs. 3.41 in non-sex workers; nominal $p<0.0001$, significant after Bonferroni correction), with some even finding their lives meaningless (2.30 vs. 3.78 in non-sex workers; nominal $p<0.0001$, significant

after Bonferroni correction). (Table 7.2) A total of 80 respondents (90%) admitted feeling stressed, the causes of which were due to the following reasons in descending order: their financial situation (43%), family/ social relationships (23%), occupation (14%), and other health-related issues (12%) (see Table 7.3).

Only three questions were asked in the domain of social relationships, and no statistically significant difference was found between the two groups in this domain (Table 7.2). Most of the FSWs (67%) worked alone (Table 7.3). With respect to social support and needs, a third of them (35%) said they did not have any social support, and for those who had, the majority (78%) claimed the support came from friends; Family and partners only accounted for 10% and 7% respectively.

As for environmental issues, many FSWs reported feelings of being trapped and being insecure. They reported insufficient financial resources to meet basic needs (1.84 vs. 3.31 in non-sex workers; nominal $p<0.0001$, significant after Bonferroni correction) and a lack of opportunity to participate in leisure activities (2.27 vs. 3.42 in non-sex workers; nominal $p<0.0001$, significant after Bonferroni correction) (Table 7.2). Over half of the women reported earning less than £366 per month, and about a third claimed earning between £366 and 733 per month (Table 7.4). A total of 66% of the sex workers spent less than 50% of their income on themselves, and 51% spent less than £2.9 on food per day. A total of 73 sex workers (82%) claimed they had at least one dependent (under the age of 18 years old) to care for. (Table 7.1) Almost half of the FSWs (47%) worked seven days a week, with some (14%) working for more than 10 hours per day (Table 7.4). They also felt physically unsafe (2.35 vs. 3.59 in non-sex workers; nominal $p<0.0001$, significant after Bonferroni correction), and reported cases of rape (3%), beating (8%), verbal abuse (11%), robbery (16%), and refusal of payment (20%) by clients.

4. Summary

The first study indicated that most street FSWs had crossed the Chinese border to work in Hong Kong had dependents and they worked to support their families back in China. Many sex workers were exposed to abuse while at work. Overall, the women surveyed scored significantly lower in physical, psychological and environmental health when compared to non-sex workers of the same age group and sex in Hong Kong.

Demographic characteristics	Sex workers (N=89)	Non-sex workers (N=89)	Independent t test nominal p value	
Age	Years			
Mean	36.07	32.19		
Standard Deviation	8.30	10.69	0.007*	
Range	23-58	20-57		
Place of residence	n		Chi square Degree of freedom	Chi square nominal p value
Hong Kong (including 2 originally from Thailand)	10	89		
Hubei (China)	30	0		
Guangdong (China)	23	0	4	0.000*
Hunan (China)	13	0		
Others (Lived China)	13	0		
Length of time living in Hong Kong				
< 3 months	35	N/A		
3 months-1year	33	N/A		
2-10 years	3	N/A	N/A	N/A
11-20 years	4	N/A		
21- 30 years	5	N/A		
>30 years	9	N/A		
Marital Status				
Single / divorced / widow	31	50		
Married and lives with husband / cohabited	45	38	2	0.000*
Married but does not live with husband (separated)	13	1		
Number of dependents				
0	16	N/A		
1	42	N/A		
2	27	N/A	N/A	N/A
3	3	N/A		
4	1	N/A		
Educational level				
No formal education or kindergarten	5	1		
Primary school	26	17	3	0.000*
Junior high school	58	18		
Senior high school or more	0	53		

Nominal p values without Bonferroni corrections
N/A Not Available

Table 7.1 Demographic characteristics of the sampled street FSWs and matched non-sex workers (N=89) in Hong Kong

	Sex workers (N=89)		Non-sex workers (N'=89)			95% C.I. for Adjusted mean difference	
	Adjusted Mean#	Non-adjusted mean	Adjusted Mean#	Non-adjusted mean	Adjusted mean difference	Lower Bound	Upper Bound
Q1 Quality of life	2.66	2.63	3.58	3.59	-0.92 *	-1.25	-0.58
Q2 Overall health	3.59	3.49	3.56	3.62	0.03	-0.32	0.38
Domain I: Physical Health	12.48	12.34	15.46	15.60	-2.98 *	-3.79	-2.17
Q3 Pain and Discomfort	1.88	1.79	3.46	3.56	-1.58 *	-2.00	-1.16
Q4 Dependence on Medicine	1.55	1.57	4.86	4.87	-3.31 *	-3.61	-3.00
Q10 Energy and Fatigue	3.54	3.52	3.59	3.62	-0.06	-0.54	0.42
Q15 Mobility	4.27	4.24	4.51	4.54	-0.24	-0.59	0.11
Q16 Sleep and Rest	3.61	3.55	3.37	3.42	0.24	-0.16	0.64
Q17 Activities of Daily Living	3.47	3.43	3.56	3.61	-0.09	-0.43	0.24
Q18 Working Capacity	3.53	3.51	3.70	3.70	-0.18	-0.53	0.18
Domain II: Psychological	12.12	12.07	14.34	14.42	-2.22 *	-3.12	-1.31
Q5 Enjoyment of life	1.98	1.97	3.41	3.44	-1.43 *	-1.85	-1.00
Q6 Meaningful life	2.30	2.24	3.78	3.85	-1.48 *	-1.91	-1.04
Q7 Thinking, Learning, Memory, and Concentration	3.57	3.53	3.45	3.51	0.13	-0.35	0.60
Q11 Bodily Image and Appearance	3.69	3.71	3.87	3.87	-0.18	-0.62	0.25
Q19 Self-esteem	3.38	3.37	3.56	3.57	-0.19	-0.53	0.16
Q26 Negative Feelings	2.74	2.79	3.36	3.32	-0.62 *	-0.99	-0.26
Q27 Eating	3.12	3.08	3.39	3.44	-0.27	-0.62	0.09
Q28 Being respected and accepted	3.48	3.47	3.85	3.85	-0.38	-0.82	0.06
Domain III: Social Relationship (Culturally Adjusted)	13.91	13.66	13.84	14.08	0.08	-0.93	1.08
Q20 Personal Relationships	3.73	3.69	3.49	3.54	0.24	-0.08	0.57
Q21 Sexual Activity	2.93	2.90	3.30	3.31	-0.37	-0.71	-0.04
Q22 Social Support	3.78	3.66	3.58	3.71	0.20	-0.11	0.51
Domain IV: Environment	12.05	11.86	13.33	13.49	-1.28	-2.22	-0.35
Q8 Physical Safety and Security	2.35	2.37	3.59	3.57	-1.25 *	-1.72	-0.77
Q9 Physical Environment	3.19	2.98	2.78	2.98	0.42	-0.11	0.84
Q12 Financial Resources	1.84	1.83	3.31	3.33	-1.48 *	-1.95	-1.00
Q13 Opportunities for Acquiring Skills	3.32	3.30	3.54	3.53	-0.22	-0.73	0.29
Q14 Opportunities for Leisure Activity	2.27	2.26	3.42	3.43	-1.15 *	-1.65	-0.65
Q23 Home Environment	3.29	3.23	3.48	3.53	-0.19	-0.55	0.17
Q24 Access to Health and Social Care	3.85	3.79	3.12	3.17	0.72 *	0.43	1.02
Q25 Transport	4.00	3.97	3.41	3.44	0.59 *	0.31	0.86

*Statistically significant at $p<0.05$ after Bonferroni correction i.e. when nominal $p< 0.0017$

#Adjusted for Educational Level, Marital Status and Age

Table 7.2 Comparison of the WHOQOL-BREF (HK) scores between street FSWs (N=89) and non-sex workers (N'=89) in Hong Kong

Domains	Questions	N	n	% of N
Physical health	**Have you been ill in the last three months?**	89		
	Yes		19	21%
	No		70	79%
	How many times have you been ill in the last three months?	19		
	Once		9	±47%
	Twice		4	±21%
	Thrice		2	±11%
	More than thrice		4	±21%
	Did you see a doctor?	19		
	Yes		9	±47%
	No		10	±53%
	Taking regular medication	89		
	Yes Prescribed by doctor		4	5%
	Purchase over-the-counter		10	11%
	What kinds of drugs?	14		
	Prophylactic ciprofloxacin		7	±50%
	Weight losing pills		2	±14%
	Oral contraceptive		2	±14%
	Iron sulphate		1	±7%
	Analgesic		1	±7%
	Uncertain		1	±7%
Psychological health	**Where does the stress come from?**	89		
	Reported stress		80	90%
	Not aware of any stress		9	10%
	Sources of stress *	151		
	Financial		65	43%
	Social and family relationship		35	23%
	Occupation		21	14%
	Health		18	12%
	Housework		12	8%
	Ever considered or committed suicide			
	Yes, only consider	89	17	19%
	Stopped by: Think of family member	17	10	±59%
	Self		6	±35%
	Boyfriend		1	±6%
	Yes, ever attempted suicide		6	7%
	No		66	74%
	Number of Times Ever Attempted Suicide			
	0	89	83	93%
	1		4	4%
	2		2	2%
Social relationships	**Do you work alone or in partnership?**	89		
	Work alone		60	67%
	Partnership		29	33%
	Do you have any social support?	89		
	Yes		56	63%
	No		31	35%
	no perceived need of social support	31	2	7%
	Sources of social support	59		
	Friends		46	78%
	Family members		6	10%
	Partners		4	7%
	Social workers		3	5%
	Reasons of no social support	31		
	No need		2	7%

* Respondents could check more than one option

Table 7.3 Physical and psychological health, and social relationship issues of street FSWs (N=89) in Hong Kong

Domains	Questions	Total N responding	Subgroup n	% of N
Environmental issues	**Do you work and live in the same place?**	89		
	Yes		69	78%
	No		20	23%
	Income #	89		
	<£366		53	60%
	£366-733		31	35%
	£734-1481		4	5%
	>£1481		1	1%
	Percentage of money spend on self per month	89		
	<30%		28	32%
	30%-49%		30	34%
	50%-79%		15	17%
	80%-100%		16	18%
	Money spend on food per day	89		
	<£2.9		45	51%
	£2.9-5.8		31	35%
	£5.9-8.7		12	14%
	>£8.8		1	1%
	Working days per week	89		
	≦3 days		13	15%
	4 days		5	6%
	5 days		18	20%
	6 days		10	11%
	7 days		42	47%
	Flexible		1	1%
	Working hours per days	89		
	<3 hours		4	5%
	3-6 hours		37	42%
	7-10 hours		35	39%
	>10 hours		12	14%
	Flexible		1	1%
	Unfavourable experiences during work *	89		
	Beaten by clients		7	8%
	Not paid by clients		18	20%
	Raped by client		3	3.4%
	Robbed by clients		14	16%
	Verbally abused by clients		10	11%
	Number of unfavorable experiences reported	89		
	0		59	66%
	1		19	21%
	2		6	7%
	>2		5	6%

* Respondents could check more than one options
# £1=HK$13.5

Table 7.4 Environmental issues experienced by street FSWs (N=89) in Hong Kong

Chapter Eight Hong Kong's Female Sex Workers: Occupational Dangers and Hazards in the Workplace

1. Introduction

Sex work is characterised by a "complex organisational structure" (Davis 1993: 5). This is particularly so given the lack of documentation of what, in most countries, is an outlawed and underground activity, and the multiplicity of activities worldwide that constitute sex work (Kempadoo and Doesema 1998). WHO advised that successful interventions to prevent HIV infection associated with sex work "have been most effective where prostitutes are empowered to determine their working conditions." (Global Programme on AIDS and Programme on STD 1989). Arguments for and against the work place support of sex workers are abundant in the literature. Instead of regarding women as being forced or "lured into" sex work, pro-sex-work campaigns argue that sex work can be treated as an occupation deserving of occupational safety (Pateman 1998: 190; Jeffreys 1997: 161-195).

The context of economic necessity and illegality of sex work renders (migrating) sex workers extremely vulnerable to public stigma, occupational injury and harassment. This, in turn, violates their human rights in numbers of ways which remain scarcely and very poorly documented in the international research literature. Weinberg et al. (1999) recently compared working routines of female, male, and transsexual sex workers in the streets of San Francisco. Among the findings were that FSWs were more likely to have a regular work schedule, work more days per week, see more clients, spend less time with their clients, and earn more.

In Hong Kong, sex work and the social processes behind it have largely been ignored whereas the visible face to the public has been that of media reports of regular police raids because of the

increasing number of mainland women who enter Hong Kong illegally to engage in this industry (Lee and So 2002; Chan 2003 a,b). (Figure VIII) The following reports on a study of the environmental safety of FSWs in Hong Kong.

2. Methods

Between October 2003 and February 2004, the Chinese University of Hong Kong and a local charity, AFRO has conducted a survey on the street sex workers in Shamshuipo, Yaumatei, Jordon and Sanpokong districts. The street workers were invited to participate a 30-minute face-to-face interview at the AFRO drop-in centre. A written consent was obtained, anonymity and confidentiality assured with ethical approval granted Ethics Committee of the university concerned.

The questionnaire has been described in details in chapter 5 and 6. The results produced in the following report are those from the environment sub-section of the instrument. A focus group was later conducted drawing with the population conveniently recruited from the respondents to the questionnaire who were then invited to attend. This resulted in 6 focus group attendees. The questions asked in the focus group were designed to elicit an understanding of the thinking behind the central issues from the questionnaire. The group was facilitated by a moderator and observer and results were transcribed and analysed by thematic content analysis. Five major themes were identified: Motivations and circumstances leading to working in Hong Kong; Work-related safety issues and management strategies; Fear and anxiety with coping strategies; "Rational" thinking behind irrational health-seeking behaviours; Restrictions and emotions that shaped the FSWs' lifestyles. Only relevant quotes that related environment and work safety would be reported in this chapter.

3. Results

In respect to income, a total of 60% of the FSW surveyed made a living "for the whole family" of less than £366 per month, 35% made between £366 and £733, indicating that for the majority their income was below £733. (Table 7.4) In Hong Kong, the current poverty line lies at £278 per person (Hong Kong Census & Statistics Department 2003). The focus group data indicated that many of these women sent their income back to China where it went considerably further to support their families given the much lower cost of living, clearly showing that in Hong Kong sex work by mainland Chinese women is a strategy of economic migration. Of note is that 71% of sex workers did not receive any tips from their clients. A total of 65% of the sex workers spent less than 50% of their income on themselves and 51% spent less than £2.9 on food per day. Children's education took priority and a large amount of the expenses.

As one of the informants said, *"I have 2 tutors, one for each son and that costs her 300 Yuan per month per tutor". (S6)*

Almost half of the women worked 7 days a week (47%) and 20.2% worked 5 days a week (Table 7.4). Most of the women worked during the day (73%), and many (14%) worked more than 10 hours a day. The majority of women were flexible in their working hours (39%) with the next most frequent group being those who worked early (7-9am) mornings (28%) and then late (10-12am) mornings (26%). Hence, much of these women's working life is spent on the street, and this is inevitably associated with public and police harassment. Women were also concerned about poor housing (3.35 vs. 3.59 in healthy subjects; nominal $p<0.0001$, statistical significant after Bonferroni correction) (Table 7.2). The later concern may well reflect an unsafe working environment in that many of these women worked from home.

A total of 84% of the women surveyed did not have special reasons for deciding their working hours, reporting that this was a personal decision (72%) or arbitrary (12%); a few women would work according to clients' preference (7%). (Table 8.1) A total of 80 of FSWs (90%) said that they would stop working when they were sick and most of them (87%) would not work when they had their menstrual period.

A total of 14 (16%) of the women reported being robbed and verbally abused by clients respectively (Table 8.1). Furthermore, 7 (8%) of the women had been assaulted by clients, and 2 (2%) had been forced to offer services. Forty-seven women (53%) had been checked for their identity by police. In addition, 11 (12%) of the women had been insulted by passers-by and three women reported being raped by a client. Many women felt physically unsafe and 18 (20%) reported only receiving irregular payment.

In the focus group, women gave considerable evidence of clients refusing to pay, for example, one woman reported a man being unable to get an erection and so she had to spend an hour with him. He then refused to pay and threatened to call the police. She chased after him and shouted that he should pay for her service. Some women alluded to finding ways to protect themselves; for example,

"Being more careful and choose clients carefully– keep handbag away when get to the flat). Do not take off clothes until client starts to do so. If a client does not want to have a shower first, ask him to take off clothes and if he doesn't want to take off the clothes, ask the client to pay first and if he also refuses, turn him away. (If a man is willing to shower, he will be alright as he is wet and has no clothes, he can't run away.)" (S6)

It was difficult for FSWs to offer safety, support or protection to one another as their work is both competitive and highly personal. Another informant indicated,

"I get no help from the sisters (a solidarity name for other women in the same profession). It is a job that one has to go alone with the client and so the sex worker has to be 'smart'." (S3)

Some women alluded to the fact that because sex work was a 'profession', and thus took more effort to protect themselves by using condoms so they could feel safe sexually. Thus, occupational sexual safety was less of a danger than was personal security. For the women sexual services took on an aspect of "professionalism", they had potentially greater control over their legal safety; for example, everyone had to wear condoms and needed to do oral sex. Some women were, however, more concerned about their family's safety than their own.

For example, S6 said, *"I will phone home every few days and go home every month or every few months to make sure that the family is okay."*

To avoid being arrested most women stopped working temporarily (83%) whereas a number of women had no particular strategy (14%). (Table 8.1) Few women knew their rights after being arrested with most reported "do not know" (84.3%). Those who had knowledge of their rights reported keeping silent (50%) and self bale (29%)

In respect to the focus group data, one informant reported an incidence of abuse by the police:

"Two policemen said that they were arresting us for 'blocking the street'. We replied we were travelling from China and had the right to stand there. The policemen then began to verbally insult

us by calling us names (prostitutes). When we threatened to complain, the police did not stop, but punched us twice in front of everyone on the street." (S2)

Another woman went onto to say, *"As soon as we are caught, we will be repatriated to the mainland on the next day and there wouldn't be a chance to complain, especially when we come in with a fraudulent visa." (S1)*

4. Summary

Clearly poor living and working environments are evident for this group of FSWs: Sex workers are denied the protections other workers have a right to expect (e.g., the right to negotiate the terms and conditions of their employment, the right to a healthy and safe working environment and freedom from sexual harassment). This inequality makes sex workers vulnerable to intimidation and exploitation by clients and employers.

Figure VIII **Also in Jordon- a police van with a sign and a regular broadcast to encourage reporting street sex work**

	Total Subgroup N	n	% of N
Decision of how long to work by FSWs			
Self	89	64	72%
Decided by clients		6	7%
Employer's decision		1	1%
Flexible(no fixed pattern)		11	12%
Health		2	2%
Maximising the income		1	1%
Others		4	5%
Experience of dangerous working conditions by FSWs*			
Beaten by clients	89	7	8%
Not paid by clients		18	20%
Raped by client		3	3.4%
Robbed by clients		14	16%
Verbally abused by clients		10	11%
ID check		47	53%
Pressured to sign		3	3%
Refused bail		1	1%
Photographed by police		1	1%
Insulted by a passer-by		11	12%
Chatted with a passer-by		21	24%
Number of dangerous working experiences			
0	89	28	31%
1		29	33%
2		13	15%
>2		19	21%
Avoidance of being arrested by FSWs			
Stop working temporary	89	74	83%
Assign someone as a watch dog		1	1%
No method		12	14%
Old clients		1	1%
Be careful		1	1%

* Respondents could check more than one option

Table 8.1 Working conditions of street FSWs (N=89) in Hong Kong

Chapter Nine The Relationship between Occupation, Psychological Health, and Suicidality: The Case of Female Street Sex Workers in Hong Kong

1. Introduction

Understanding the impact of jobs on individuals' health outcomes is important for both social analysts and policymakers, yet the empirical relationship between work environment and emotional health of individuals is highly controversial. For examples, Johnson and Hall (1988) found a difference in prevalence of cardiovascular disease among workers with high demands, low control, and low social support compared to those with low demands, high control, and high social support. Chan and Huak (2004) showed that work pressure was one of the significant predictors of poor emotional health for nurses, while task orientation and other work aspects were important predictors of poor emotional health for doctors. However, using data from the Nurses' Health Study, Lee et al. (2002) found that women in high strain jobs did not have an increased risk of coronary heart disease compared with those in low strain jobs. Using data from the British Household Panel Survey, Bardasi and Francesconi (2004) did not find any significant association between atypical employment arrangements (e.g., temporary and part-time employment schemes) and adverse health consequences for either men or women, after controlling for background characteristics.

A number of models have been proposed to explain the relationship between work environment and health outcomes. One of the seminal models in this area was developed by Karasek et al. (1988) who used a two-dimensional model of job stress to show that a combination of low decision latitude at work and high psychological workload was associated with past myocardial infarction among male workers. In particular, the main hypothesis of their model was that psychological strain and

increased cardiovascular risk were resulted from the joint effects of the psychological demands at work as well as the lack of ability for workers to control their work situation satisfactorily and to handle the level of demands being placed on them. Another model on psychological factors at work and health was proposed by Siegrist et al. (1990), who made a link between imbalance of effort-reward and health. Specifically, jobs that involved high effort at work but low reward (in the form of job security, level of salary, career opportunities, and esteem) had adverse effects on health.

These models are particularly suited to explore the relationship between health and work environment among sex workers. For sex workers, they lack the ability to control their work situation and experience low reward (level of salary and esteem) despite long hours of work and even abused by pimps and clients. In particular, Kong (2004) found that the majority of the women worked 9-12 hours each day, with less than one-fifth of them working an average eight-hour day. Given that they faced more severe strains in their working environments than the general working population, we would expect that they suffer from poorer psychological and physical health when compared to the general population.

Based upon predictions from previous theoretical models, we would expect a direct relationship between work environment and, psychological and mental well-being. Nevertheless, we cannot establish the direction of causation between the two factors. Specifically, reverse causation may occur in the job choice and individuals' health. In particular, job choice (e.g., career opportunities and job security) depends on individuals' preference, expectations, and financial constraints. The young, the elderly, or women with young children may intentionally select more flexible work arrangements even though they may pay less or are less secure. In other words, if people prefer less stable jobs which give a lower level of income but offer more flexible work arrangements, then we cannot say unequivocally that imbalance effort-reward would lead to ill health. In addition, it is equally true that people with poorer health are more likely to work less and to leave the work force.

Indeed, there is established economic literature on the impact of health on employment, productivity and earnings (Ettner, et al. 1997).

Another aspect of the work environment of sex workers is social isolation. Holroyd et al. (2005) found that it was difficult for female sex workers to offer support or protection to one another given the competitive and personal nature of their work. The women were reported to have said that 'it is a job that one has to go alone with the client.' While social networks and internal resources had been found to mediate the effect of perceived stress on mental health (Bovier, et al. 2004) and women who were socially isolated were more likely to face role-emotional functioning and had poorer mental health than those who were socially integrated (Achat, et al. 1998), we would expect the degree of social support among sex workers to mediate the effect of stressful work environment on psychological health.

This study drew upon these existing strands of literature to examine the factors that affect the mental well-being of female street sex-workers, particularly factors that are associated with their work environment and are intrinsic to their occupation. Specifically, in our empirical modelling, we examined the relationship between specific set of factors in the work environment of street FSWs (e.g., having identification card checked frequently, characteristics of work environment, stigma, and health threats) and mental health. Based upon previous literature, we would expect a negative relationship between a dangerous working environment and psychological well-being. Conversely, social support may mediate the negative effects of stressful work environment on psychological health.

2. Methods

Between October 2003 and February 2004, our research team in collaboration with a local NGO, AFRO in Hong Kong collected data among FSWs in the main red light districts in Hong Kong. The survey collected information on the quality of life of FSWs using WHOQOL-BREF (HK) as well as various aspects of their health status, working environment, economic status, and personal and family background information from the second part of the questionnaire. As best we know, to date, this has been the only survey being conducted among FSWs in Hong Kong that collected detailed comprehensive information on health behaviour, health status, quality of life, economic information, as well as work environment using a number of established and validated instruments.

In total, detailed information from 89 FSWs was collected. In this chapter, we examined the results from the psychological, working, economic and social domains of the questionnaire. We focused on three dependent variables in this study. These variables were:

1. The psychological health domain measures facets such as body image and appearance, negative and positive feelings, self-esteem, personal beliefs, as well as concentration through eight questions (See Appendix 1 for the questions). The scores for each question ranged between 1 (definitely dissatisfied) and 5 (definitely satisfied). The mean score of questions within each domain was used to calculate the domain score, with the higher scores denoting higher quality of life. Mean scores were then multiplied by 4 in order to convert scores to range between 4 and 20 (WHO 1996).

2. Suicide ideation and attempts, which were measured by a question that asked if respondents had ever only considered or actually had attempted to commit suicide, with 1 being "no", 2 being "yes, only considered", 3 being "yes, ever attempted suicide".

3. Number of suicide attempts, which was measured by a question that asked the respondents the number of times they had ever attempted suicide.

We also collected information on reasons that stopped the respondents from committing suicide and methods employed when they attempted suicide. Our data allowed us to distinguish various aspects of risks associated with their work and work environment, which represented our main variables of interest. These variables were:

1. Previous employment status (housewife, student, employed, and unemployed);
2. Being beaten by client (yes/no);
3. Being insulted by passer-by on the street (yes/no);
4. Having their identity card being checked frequently by the police (yes/no);
5. Being afraid of being arrested by the police (yes/no);
6. Being afraid of being infected by HIV-AIDS (yes/no).

We chose to focus the analyses on these six variables regarding the working environment, based upon findings from a separate qualitative study on a similar group of FSWs in Hong Kong, (Holroyd et al. 2005). Nevertheless, we also collected information on other aspects of risks and dangers faced by sex-workers at work and their work environment. The mean values of the predicted probabilities for those previously employed, those previously who were housewives, and those previously unemployed were calculated using estimated coefficients and values of the explanatory variables of those in the respective categories.

3. Results

3.1 Psychological Domain

Table 9.1 shows the means of the items within the psychological domain. We found that on a scale of 4 to 20, the mean score of the psychological health domain under the WHQOL-BREF for our sample was 11.48. Our sampled sex workers had low mean self-assessments of their enjoyment of life and life meaning. Over half (55%) of the respondents said they did not enjoy their lives at all. Furthermore, almost half (48%) of the respondents said that they did not think their lives meaningful, with an additional 29% thought their lives had either little or a certain extent of meaning. 45% of our respondents claimed that they sometimes had negative feelings towards their lives and an additional 23% said they often had or always had such feelings.

Nevertheless, the mean scores for the other questions were somewhat higher. Our sampled sex workers had a fairly high acceptance towards their personal image and appearance. For example, 42% of the respondents could completely accept their images and appearances. The respondents had strong abilities to concentrate on their daily tasks; for example, 63% of the respondents said that they could concentrate greatly or even completely on their daily tasks. Furthermore, 39% of the respondents said that it was easy or very easy to obtain the food that they desired. About 61% of the sampled sex workers thought that the public accepted them to a great or very great extent.

3.2 Suicide Attempts and Ideation

A quarter (26%) of the study respondents reported to have either attempted or considered attempting suicide. (Table 7.3) A total of 7% of the respondents reported to have attempted suicide with 2% of the respondents had attempted suicide at least twice. A total of 6% of our respondents had attempted suicide by slashing their wrist, 2% by taking medications, while 6% had attempted using other methods. Among the 19% respondents who had considered but did not actually attempt suicide, the main reasons for their not attempting suicide include concern for family members (59%) and self-concerns (35%).

3.3 Work Environment

We found that our respondents faced a number of threats and safety concerns from their environment. Details have been reported in Chapter 8.

3.4 Social Support

A total of 63% of the respondents reported that they could obtain social support when needed while only 35% did not have any social support and 7% of the latter group claimed they did not need any social support. (Table 7.3) Among those respondents who had social support when needed, 78% obtained support from friends, 10% from family members, and the remaining obtained support from boyfriends (7%) and social workers (5%).

3.5 The Relationship of Occupation and Poor Psychological Health of FSWs

Table 9.2 reports the estimated incidence rate ratios (IRR) and coefficients from the regression models, separate equation for each of the health outcomes we were interested in. It appears there are associations between some of the environmental threats and suicidality, for example, being insulted by passer-by was also highly correlated with increased incidence of suicide attempts (incidence rate ratio=11.0, $p<0.05$). We also found a strong relationship between one of work environment, environmental threats and psychological health, namely fear of being arrested by the police was significantly associated with lower scores on psychological health (nominal $p<0.05$). Nevertheless, the relationship between work environmental threats and mental health were ambiguous in other dimensions; for example, fear of arrest had significant though small (in magnitude) negative correlation with the incidence of suicide attempts (incidence rate ratio=0.13, nominal $p<0.05$) and being afraid of HIV-AIDS infection was correlated with higher scores of psychological health (nominal $p<0.10$).

Table 9.3 shows the mean values of the reported and predicted probabilities from the ordered probit estimations. Those who feared being infected with HIV had average predicted probabilities of 7.3 % and 19.2% for attempting and considering suicide respectively compared to 6.4% and 16.3% of those who did not fear being infected with HIV. In the same way, those who had their identity cards checked frequently had average predicted probabilities of 12.3% and 27.8% for attempting and considering suicide respectively. In contrast, those who did not have their identity cards checked frequently had predicted probabilities of 1.1 % and 7.8% for attempting and considering suicide respectively.

Those respondents who were previously employed had predicted probabilities of 23.2% and 12.0% for "only considering suicide" and "actually attempting suicide" respectively (Table 9.3). On the other hand, those who were previously unemployed or housewives had predicted probabilities of 11.7% and 15.2% respectively for ever considering suicide, and predicted probabilities of 0.9% and 2.5% respectively for actually attempting suicide. Similarly, those who were previously employed had higher predicted probabilities (17.6%) of having poor psychological well-being (4<=domain scores<8) and lower predicted probabilities (7.0%) of having excellent psychological well-being (16<=domain scores<20) than those who were previously unemployed (11.2% and 11.2% for poor and excellent psychological well-being respectively) or those who were previously housewives (6.6% and 24.5% for poor and excellent psychological well-being respectively). (Table 9.4) One potential explanation is that if they were gainfully employed previously, the engagement in sex work may be considered as a greater downward movement in social hierarchy (despite financially better rewarded) than those who were previously unemployed.

Those who feared being arrested had average predicted probabilities of 16.0% and 7.0% of having poor and excellent psychological health, compared to the average probabilities of 1.4% and 34.8% of having poor and excellent psychological health among those had no fear of being arrested (Table

9.4). When we examine the predicted probabilities of suicide and psychological health, the distributions for average predicted probabilities of poor and excellent psychological health were similar among those afraid of HIV-AIDS infections and those not afraid of HIV-AIDS infections.

4. Summary

In this report, we did not attempt to measure the effect of marginal changes in work environment and job conditions on psychological well-being and suicidality, but rather we were able to examine the associations between the two factors. Furthermore, the data that we collected was highly descriptive and contains valuable contextual information that allowed us to examine the multi-faceted characteristics of the sex work. Controlling for background characteristics, factors that were inherent to the sex industry were significantly associated with poor psychological health and suicidality.

Psychological Health					
Domain score (N =89)	**4<=domain<8** 6 (6.7%)	**8<=domain<12** 33 (37.1%)	**12<=domain<16** 45 (50.6%)	**16<=domain<20** 5 (5.6%)	
	Response scale				
Facet structure	**Not at all** n (%)	**A little** n (%)	**A moderate amount** n (%)	**Very much** n (%)	**An extreme amount** n (%)
Positive feelings (N=89) *'How much do you enjoy life?'*	49 (55%)	13 (15%)	12 (14%)	11 (12%)	4 (5%)
Religion/ Spirituality/ Personal beliefs (N=89) *'To what extent do you feel your life to be meaningful?'*	43 (48%)	7 (8%)	19 (21%)	15 (17%)	5 (6%)
Thinking, learning, memory and concentration (N=89) *'How well are you able to concentrate?'*	17 (19%)	7 (8%)	9 (10%)	24 (27%)	32 (36%)
	Not at all n (%)	**A little** n (%)	**Moderately** n (%)	**Mostly** n (%)	**Completely** n (%)
Bodily image and appearance (N=89) *'Are you able to accept your bodily appearance?'*	12 (14%)	6 (7%)	15 (17%)	19 (21%)	37 (42%)
	Very dissatisfied n (%)	**Dissatisfied** n (%)	**Neither satisfied nor dissatisfied** n (%)	**Satisfied** n (%)	**Very satisfied** n (%)
Self-esteem (N=89) *'How satisfied are you with yourself?'*	1 (1%)	25 (28%)	10 (11%)	46 (52%)	7 (8%)
	Always n (%)	**Very Often** n (%)	**Quite often** n (%)	**Seldom** n (%)	**Never** n (%)
Negative feelings (N=89) *'How often do you have negative feelings such as blue mood, despair, anxiety, depression?'*	14 (16%)	15 (17%)	40 (45%)	16 (18%)	4 (5%)
	Not at all n (%)	**A little** n (%)	**A moderate amount** n (%)	**Very much** n (%)	**An extreme amount** n (%)
Eating (N=89) *'How easily can you eat the things that you want to eat?'*	11 (12%)	1 (14%)	32 (36%)	29 (33%)	5 (6%)
Being respected and accepted (N=89) *'Do you feel you are accepted by others?'*	14 (16%)	8 (9%)	13 (15%)	30 (34%)	24 (27%)

Table 9.1 Proportions of responses on psychological health items in WHOQOL-BREF (HK) by FSWs (N=89) in Hong Kong

	Number of Suicide Attempts Incidence Rate Ratios (robust standard error)	Suicide Attempt (1=no, 2=yes, only considered, 3=yes, ever attempted suicide) Coefficients (robust standard error)	Psychological Domain (=1 if 4<=score<8; =2 if 8<=score<12; =3 if 12<=score<16; =4 if 16<=score<20) Coefficients (robust standard error)
Social Support			
Fair	0.85	3.18**	-0.19
	(0.77)	(0.92)	(0.55)
Satisfied	0.22	2.10**	0.67*
	(0.31)	(0.84)	(0.39)
Definitely satisfied	1.67 X 10-7**	2.42**	1.29**
(reference group being dissatisfied social support)	(3.52 X 10-7)	(1.07)	(0.55)
Previous employment status			
Housewife		-0.14	-0.32
		(0.51)	(0.39)
Employed		0.78	-0.96**
(reference group being unemployed before)		(0.47)	(0.32)
Experience of dangerous working condition			
Afraid of infection with HIV	1.96	0.86	0.57*
	(1. 87)	(0.57)	(0.35)
Have identity card checked frequently	0.85	1.61**	-0.39
	(1.01)	(0.47)	(0.28)
Beaten by client	0.40	-1.53**	-0.23
	(0.48)	(0.68)	(0.57)
Insulted by passer-by	11.03**	0.79	0.63
	(7.62)	(0.57)	(0.60)
Afraid of being arrested	0.13**	0.21	-1.82**
	(0.08)	(0.54)	(0.40)
	Wald=850.56 Pseudo R^2=0.2926	Wald=93.64 Pseudo R^2=0.4192	Wald=111.59 Pseudo R^2=0.2476

These regressions included other explanatory variables such as age, place of residence, educational levels, marital status, number of dependents, and length of time living in Hong Kong.

**nominal p<0.05; *nominal p<0.10

Table 9.2 Regression looking at the relationship of occupation and suicidality/ psychological health among FSWs (N=89) in Hong Kong

	n(%) of Suicide Ideation/Attempts		Predicted Probabilities of Suicide Ideation/Attempts	
	Yes, only considered	Yes, attempted suicide	Yes, only considered	Yes, attempted suicide
Afraid of infected with HIV (N=89)				
Yes (n=62)	13 (21.0%)	4 (6.5%)	19.2%	7.3%
No (n=27)	4 (14.8%)	2 (7.4%)	16.3%	6.4%
Have your ID card checked frequently (N=89)				
Yes(n=47)	15 (31.9%)	5 (10.6%)	27.8%	12.3%
No (n=42)	2 (4.8%)	1 (2.4%)	7.8%	1.1%
Beaten by client (N=89)				
Yes(n=7)	2 (28.6%)	1 (14.3%)	25.6%	14.7%
No (n=82)	15 (18.3%)	5 (6.1%)	17.7%	6.4%
Insulted by passer-by (N=89)				
Yes (n=11)	4 (36.4%)	3 (27.3%)	36.3%	26.7%
No (n=78)	13 (16.7%)	3 (3.8%)	15.8%	4.2%
Afraid of being arrested (N=89)				
Yes (n=76)	16 (21.1%)	4 (5.3%)	19.0%	6.2%
No (n=13)	1 (7.7%)	2 (15.4%)	14.3%	11.7%
Previous job (N=89)				
Unemployed (n=28)	4 (14.3%)	0 (0.0%)	11.7%	0.9%
Housewife (n=14)	3 (21.4%)	0 (0.0%)	15.2%	2.5%
Employed (n=47)	10 (21.3%)	6 (12.8%)	23.2%	12.0%

Table 9.3 Reported and predicted probabilities of suicidality and environmental threats/ previous employment status among FSWs (N=89) in Hong Kong

	n (%) of Psychological Health Domain Scores*				Predicted Probabilities of Psychological Health Domain Scores*			
	4<=score<8	8<=score<12	12<=score<16	16<=score<20	4<=score<8	8<=score<12	12<=score<16	16<=score<20
Afraid of infected with HIV (N=89)								
Yes (n=62)	8 (12.9%)	26 (41.9%)	20 (32.3%)	8 (12.9%)	13.5%	38.6%	37.1%	10.9%
No (n=27)	4 (14.8%)	9 (33.3%)	12 (44.4%)	2 (7.4%)	14.7%	38.0%	35.8%	11.5%
Have your ID card checked frequently (N=89)								
Yes(n=47)	7 (14.9%)	22 (46.8%)	13 (27.7%)	5 (10.6%)	15.9%	41.3%	35.4%	7.4%
No (n=42)	5 (11.9%)	13 (31.0%)	19 (45.2%)	5 (11.9%)	11.6%	35.1%	38.1%	15.2%
Beaten by client (N=89)								
Yes(n=7)	1 (14.3%)	2 (28.6%)	2 (28.6%)	2 (28.6%)	7.6%	32.3%	39.5%	20.6%
No (n=82)	11 (13.4%)	33 (40.2%)	30 (36.6%)	8 (9.8%)	14.4%	38.9%	36.5%	10.3%
Insulted by passer-by(N=89)								
Yes (n=11)	3 (27.3%)	2 (18.2%)	3 (27.3%)	3 (27.3%)	14.4%	32.6%	36.0%	17.0%
No (n=78)	9 (11.5%)	33 (42.3%)	29 (37.2%)	7 (9.0%)	13.8%	39.2%	36.8%	10.2%
Afraid of being arrested (N=89)								
Yes (n=76)	12 (15.8%)	32 (42.1%)	27 (35.5%)	5 (6.6%)	16.0%	42.3%	34.7%	7.0%
No (n=13)	0 (0.0%)	3 (23.1%)	5 (38.5%)	5 (38.5%)	1.4%	15.2%	48.6%	34.8%
Previous job (N=89)								
Unemployed (n=28)	3 (10.7%)	11 (39.3%)	11 (39.3%)	3 (10.7%)	11.2 %	38.5%	39.1%	11.2%
Housewife (n=14)	0 (0.0%)	5 (35.7%)	6 (42.9%)	3 (21.4%)	6.6%	25.9%	43.1%	24.5%
Employed (n=47)	9 (19.1%)	19 (40.4%)	15 (31.9%)	4 (8.5%)	17.6%	42.1%	33.4%	7.0%

* For psychological health domain scores, a higher score represents a better psychological health

Table 9.4 Reported scores and predicted probabilities of psychological health domain in different work environments/previous employment status among FSWs (N=89) in Hong Kong

Chapter Ten Patterns of Health Care Utilisation and Health- seeking Behaviours among Street Sex Workers in Hong Kong

1. Introduction

Due to the fear of being denied re-entry to the city, FSWs usually work and live in Hong Kong for a few months before joining their families in China. Their disadvantaged position is further exacerbated by the recent economic downturn as well as the introduction of a fee imposed since April 2003 of £103.7 (£1=HK$13.5) for all non-Hong Kong residents (compared to free access for the residents) when utilising venereal disease medical services. This fee publicly reinforces the social rejection and isolation resulting in serious implications for access to and availability of the health services for mainland Chinese FSWs which, in turn, lead to a greater exposure to sexual health risks by the general public. Little is known about the frequency and pattern of use of health services by FSWs.

The aims of this study were to describe the current use of health services by the street-based FSWs and to explore beliefs behind these health behaviours using the stepwise conceptual constructs (the determinant model) based on the conceptual models described in the next section. A more complete picture would be unfolded with the supplementation of the focus group discussion (the pathway model). Therefore, such data was important to help devise quality health care services that are relevant and sensitive to the needs of this substantial subgroup of society and provide innovative approaches to address the health inequality experienced by this subgroup.

1.1 Conceptual Models behind this Study

The health of a population is largely dependent on access, affordability and acceptability of the formal health care services and hence the analysis of health care utilisations has increasingly been a major focus for policymakers and service providers. Several conceptual models of health care utilisation have been proposed, of which the behavioural model (Anderson 1968), the health belief model (Rosenstock 1966; Becker 1974) and the theory of planned behaviour (Ajzen and Fishbein 1980) have been validated and applied.

In the behavioural model, use of health care is based on three main components: predisposing factors such as age, sex, education and employment; enabling factors which include income, insurance, home environment; and need factors which comprise of the perceived health status, type of illnesses and time off sick (Kroeger 1983). The health belief model postulates that an individual decides upon an action such as screening for cervical cancer or use of condoms when threatened by the perceived susceptibility and severity of the disease, and this, in turn, is balanced by the efficacy of the action. The theory of planned behaviour has extended this model by incorporating another variable, that is, people's behaviour is a consequence of their perceived control. Control in the context of health can be understood in terms of internal locus of control (the extent to which an individual believes that he/she is responsible for his/ her own health) and external locus of control (the person concerned believes one's action is influenced by outside forces such as chance, luck or expectations from others).

From an analytical viewpoint, the three conceptual models are not mutually exclusive from each other and therefore a mapping from a conceptual framework to an analytical model is needed. Based on the determining factors described above, Pokhrel and Sauerborn (2004) devised a four-step conceptual decision-making model and the steps are: perception of illness, care-seeking behaviour, choosing providers and health expenditure. Kroeger (1983) further categorised the

mental process of health utilisations into two models: the pathways model and the determinant model. The former, usually studied by qualitative methods, describes the process of illness behaviour and steps taken in decision making whereas the latter is mainly of quantitative nature and focuses on a number of presumed factors that may be associated with the health care choices. Ideally, both qualitative and quantitative approaches should be used together to gain a better understanding of this complex issue as health care decisions should never be viewed as a single choice (Ward, et al. 1997).

2. Methods

The five culturally modified hierarchical steps have been adopted to formulate the questionnaire to assess the health utilization of the street-based FSWs. An additional construct, 'disease prevention' has been added to Pokhrel and Sauerborn's model as preventive care is recognized as an important aspect of health (WHO 1997). In this study, the first step was measured using self-reported morbidity in both acute and chronic illnesses while the second step was measured by the proportion of individuals who sought care given the perceived illness. Having opted for seeking help, the next step in the decision process was to 'choose a provider' from various types available and partly depended on the level of income (step 4); for example, public, private, in Hong Kong or China. Finally, the fifth step measured different disease prevention activities.

The Chinese University of Hong Kong and a local charity, AFRO conducted a survey on the street sex workers in districts near their places of work in 2003-4. A questionnaire was used that contained both validated and previously unused questions. This was piloted on women who had previously worked as street-based sex workers. The validated section was the WHOQOL-BREF (HK) Measure (Leung, et al. 1999) and, the second part comprised of 6 different domains, namely

health behaviour and hygiene, diet, weight and exercise, leisure activities, environment and personal information, in order to examine health and lifestyles practice in more details.

All women who participated in the survey were invited to participate in the focus group discussion and those who had expressed an interest would have their names and contact numbers recorded. After the initial analysis of the data, we prepared semi-structured questions on issues that we would like to explore further and they were then invited back to the AFRO Drop-in Centre in May 2004. Out of the 22 persons on our list, only 6 were contactable at the time and subsequently joined us for more in-depth discussions. The questions asked in the focus group were designed to elicit an understanding of the reasoning behind the constructs from the questionnaire. The group was facilitated by a moderator and an observer, and results were transcribed and analyzed by content analysis.

3. Results

Table 10.1 shows the health perception and types of illnesses as well as the health seeking behaviours as in the first two steps of the constructs. A total of 77 women (87%) perceived their health as just as good as or better than other women of the same age. During the previous three months, 19 women (21%) reported having been ill and about a third of the women reported for three or more episodes of illness. The majority (68%) of the illnesses was upper respiratory tract infections and only one (5%) was related to reproductive tract infection. Nearly half (42%) took 1-3 days off work as a result of these illnesses. Only one respondent (1%) had purchased travel insurance, suggesting that these migrant workers either had no perceived need of medical cover while working away from home or simply could not afford it. Therefore, it is not surprising that half of those reported sick (53%) did not seek any medical help and about a third (37%) chose to do

nothing. When choosing a provider (step 3), about half (56%) of the women surveyed went back to China for health care. Relative little of their income was spent on health care and even for regular medication (step 4): for example, for those who decided to see a doctor, 50% of the women spent less than £7.4 each time and the majority of the women (64%) who had required regular medication spent less than £7.4 per month for that purpose, suggesting that these medications were probably purchased in mainland China without a prescription or proper follow-up.

A total of 14 respondents (16%) reported taking regular medication and half (50%) of the women acknowledged taking a relatively new antibiotic called ciprofloxacin, which is recommended in the US Center for Disease Prevention and Control STI treatment guidelines in the management of chancroid, granuloma inguinale and gonorrhoea (Table 10.1). Women surveyed also took oral contraceptive pills (14%), weight reducing drugs (14%), iron supplements (7%) and analgesics (7%). Three women (3%) said they had been diagnosed with hypertension before but did not take any medication for this problem. Although not regarded as self-medication, it became apparent from the focus group that vaginal douche was a common practice among these women. A woman who was aware of the complications that vaginal douche could bring about, said that she could not stop herself from practicing it because she would otherwise *'feel dirty and psychologically imbalanced' (S3)*. In the same vein, women reported taking antibiotics *'to get rid of the poison' (S2)* or *'to make you strong' (S3)*, despite some women admitting to being *'unsure of their action'*.

In respect to step five of the constructs, 34 respondents (38%) said they had tried to be healthier in the previous twelve months. (Table 10.2) Among them, 62% did exercise, 41% had a health check by a doctor and 21% tried healthy food or paid more attention on personal hygiene. One woman, however, claimed she had had regular prophylactic injection of intravenous antibiotics within this time period. Nevertheless, 11 respondents (32%) admitted difficulties in sustaining these health-conscious activities and the main reason cited was lack of spare time (73%). Furthermore, 56

women (63%) and 64 (72%) said they had never had a Pap smear or breast examination done respectively. For those women who had had a Pap smear, only five (15%) had undertaken this within the local guidelines for cervical cancer (3-yearly screening interval). A total of 49 women (55%) said they had never been tested for STIs. Even those who had reported that they would not tell the doctor the nature of their employment. Instead, as some women reported, *'I feel itchy down below' (S3)* or *'check if my husband has been disloyal' (S6).*

A total of 18 workers (20%) reported they had received clients without condoms- the main reason (56%) being financial rewards. (Table 10.2) Since 75.3% of the respondents did not perceive themselves as having a higher risk of contracting HIV when compared to other women of the same age in Hong Kong, it was unsurprising that only 28 women (32%) had been previously tested for HIV. From the focus group, one informant explained her perceived low risk, '*everyone has to wear condoms, and if you don't know how, someone (from the trade) will teach you.*' *(S1)* For those who refused condoms, the FSW would assess the hygienic state of the client or take off their clothes to check for any spots. Sometimes, they might negotiate condom use with the client using statements such as *'you are not afraid (of catching HIV), but I am'* or *'it is free for you to see a doctor in Hong Kong, but it is very costly for me in China'* or intimidating measures such as *'if you catch it and give it to your wife, you will be in deep trouble' (S1)* or *'I do it (make love) every day while you only do it once.' (S2)* They felt that the client would usually give in if you were persistent. Conversely, five respondents were so worried that they reported having had HIV tests every month.

4. Summary

In conclusion, access to health care is a fundamental human right and that right is often deprived because of the legal, financial and social status of the street sex workers. Previosuly the empirical

understanding of the health and health service utilisation by sex workers was unbalanced and often heavily weighted towards sexual health. Sex workers are a sub-sector of the population who have common health problems as well as more specific health risks and require greater sensitivity. Therefore, it is just as important to reduce STIs and HIV among the street sex workers as it is to pay attention to other health issues, for example, the lack of access to generalised health care for these migrant sex workers.

	N	n	% of N
Step 1: Perception of Health and illnesses			
Perceived health status (Fair, Good, Excellent) when compared to women of the same age	89	77	87%
Disagree that to have a higher risk of contracting HIV when compared to women of the same age	89	67	75%
Was sick in the previous 3 months:	89	19	21%
URTI	19	13	±68%
STD		1	±5%
Others (headache, diarrhoea)		5	±26%
Known hypertension	89	3	3%
Other chronic illnesses (asthma, dyspepsia, anaemia, thrombocytopenia)	89	4	4%
Step 2: Health Seeking Behaviours			
No medical care sought	19	10	±53%
No treatment received (Chose to do nothing)		7	±37%
Self medication		3	±16%
Taking regular medication:	89	14	16%
Ciprofloxacin	14	7	±50%
Oral contraceptive pills		2	±14%
Weight reducing drugs		2	±14%
Iron supplement		1	±7%
Analgesia		1	±7%
Purchased insurance	89	1	1%
Step 3: Choosing a provider			
Doctor visited in Hong Kong (Private)	9	2	±22%
Doctor visited in Hong Kong (Public)		2	±22%
Doctor visited in Mainland China (Private)		5	±56%
Step 4: Health Expenditure #			
For each acute illness, they spent:			
<£7.4	12	6	±50%
£7.5-29.6		4	±33%
£29.7-51.9		1	±8%
£52.0-148.1		1	±8%
Was sick once in the previous 3 months	19	9	±47%
Was sick twice in the previous 3 months		4	±21%
Was sick twice or more in the last 3 months		6	±32%
Off work for 1-3 days due to illnesses	19	8	±42%
Off work for 4-6 days		6	±32%
Off work for more than 1 week		5	±26%
For regular medication: #			
Free of charge	14	2	±14%
£7.4/ month		9	±64%
£7.5-44.4/ month		1	±7%
£44.5-88.9/ month		2	±14%

£1=HK$13.5

Table 10.1 Health perception, status and service utilisation pattern among street FSWs (N=89) in Hong Kong

	N	n	% of N
Step 5: Health Promoting Behaviours			
Tried to be healthier in the previous 12 months:	89	34	38%
Exercise	34	21	62%
Body check		14	41%
Eating healthy food		7	21%
Being more hygienic		7	21%
Taking vitamins		6	18%
Others (Sleep more (4), regular lifestyles (3), eat less fatty food (1), iv antibiotics (1))		9	26%
Encountered difficulties in sustaining these health-conscious activities		11	32%
Encountered difficulties – lack of spare time	11	8	±73%
Disease Prevention			
Never had Pap smear screening	89	56	63%
Had Pap smear screening – once in a few year	33	5	15%
Never had breast-checking by health professional	89	64	72%
Never had STD checking	89	49	55%
Received clients without condoms	89	18	20%
Received clients without condoms – due to financial rewards	18	10	56%
Ever had HIV checked	89	28	32%

Table 10.2 Health promotion and disease prevention-related attitudes and behaviours among street FSWs (N=89) in Hong Kong

Chapter Eleven Feasibility Study of an Outreach Well-women Clinic for Female Sex Workers in Hong Kong

1. Introduction

So far we have seen sex workers in Hong Kong experienced many specific health-related problems and one of them being access to affordable health service and preventive care. This problem is further exacerbated by the closer integration and high volume of cross-border travel between China and Hong Kong have successful drawn many women from mainland China to work as a FSW in Hong Kong.(Abdullah 1996) In June 2003 China permitted independent travellers, a move which is welcome by many people as it is seen to be beneficial to the local economy. In Chapter 7 it has been shown that over 88.8% of the street FSWs in Hong Kong were non-local residents. 63%of them said they had never had a Pap smear done before and for those who had had a Pap smear, only five (15%) had undertaken this within the local guidelines for cervical cancer. Fundamentally, it is the disparities on poverty and wealth between the Hong Kong and some mainland cities, which creates a strategic opportunism that encourages these women to work in Hong Kong. Since many entered Hong Kong on a visitor's or fraudulent visa, they are unable to get protection from the Hong Kong police or to report crimes without risking criminal charges or deportation. At the same time they are unfamiliar with the local medical system and the public venereal service charges HK$1400 (£1=HK$13.5) for all non-Hong Kong residents (compared to HK$200 for the residents for the same service). The high turn-over and secretive nature of sex work combined deter many FSWs from seeking medical assistance and treatment for acute illnesses, let alone preventive measures such as cervical screening. Therefore it seems to me it is vital and crucial as a GP to find an alternative and acceptable model to improve the health of these women.

Outreach clinics are shown to be successful to control STIs in FSWs (Adab, et al. 2004), yet we are unable to identify studies on the effectiveness of outreach clinics for cervical cancer control for this group of women. Using a decision analysis, You *et al.* showed that an outreach clinic could potentially be less costly and more effective in preventing transmission of gonorrhea and chlamydia between FSW and her clients in Hong Kong (You, et al. 2005). Nonetheless, there are possibly other problems with an outreach approach for these mobile migrant sex workers including acceptability, compliance for follow-ups or affordability for further investigation and management. In March 2004 we started on an experimental basis an outreach well-women clinic for FSWs in which basic screening of blood pressure, weight and height as well as breast examination and Pap smear were provided. We also offered contraceptive advice and opportunistic health education on their occupational risks. The cervical smear was donated by Cytyc and a private laboratory, and thus offered free to the workers, with an optional high vaginal sample microscopy and culture or any other laboratory investigation charged at subsidised rate.

In this study the effectiveness of the clinic was mainly assessed on the process and outcome of the utilisation of the cervical cancer screening service. FSWs are particularly vulnerable to cervical cancers because of their exposures to high risk factors such as multiple sexual partners, human papillovirus infection (HPV) and low socio-economic status. About half a million cases of cervical cancer are reported each year globally of which nearly 80% comes from the developing countries. In Hong Kong, it is the fifth commonest cancer and the eighth leading cause of cancer death in females (Hong Kong Cervial Cancer Screening Programme 2004). In mainland China, despite the significant reduction of the mortality rate of cervical cancer from 14.6 to 4.3/100,000 in the past twenty years (Li, et al. 1997), it remains the fifth commonest cause of cancer death in women (Waddell 1997). However, there is good evidence that the introduction of well-organised screening programmes can result in a reduction in both the incidence and mortality of this deadly disease in the general population (Adab 2004).

We would report the clinical activities and the preliminary results of the outreach clinic to see if it was a feasible model. Comparing local and non-local FSW, we examined the potential benefits and difficulties of the outreach clinic for different groups of women. In the official statistics, it is estimated that the migrant population in China now constitutes more than 100 million and the government expects this number will grow by 46 million over the next 5 years (Zhan, et al. 2002). Given the huge number of migrant workers in and from China, it is anticipated that the experience of such a health delivery model may be invaluable for policymakers and health professionals to improve the health of these women.

3. Methods

From March 2004 to December 2005, the outreach workers from Ziteng invited FSW to the twice monthly Well-women Clinic. In the clinic, they were asked to fill in a simple questionnaire regarding their lifestyles (e.g. smoking and drinking habits) and demographic details including age, place of origin, marital status and educational level. Gynaecological and medical history and examination were recorded. Un-identified names were used and unlike government clinics official documents were not checked in this clinic.

Liquid-based Papanicolaou technique with CytoBrush as the sampling device was used. Samples were sent to a private laboratory accredited by NATA (National Association of Testing Authorities, Australia) and HKAS (Hong Kong Accreditation Services). The results of cervical smear were reported in Cervical Intraepithelial Neoplasis (CIN) system and Bethesda system (2003). The results were explained to the FSW in a follow-up visit one to four weeks later. On some occasions when the FSW could not make a follow-up visit or had left Hong Kong, results were also explained by the doctor through telephone. In the event of CIN-II or -III results, a referral letter was given to

the FSW to attend a gynecologist of choice. For other abnormal smear results, the FSW was offered the option of repeating another smear in three to six months or to be referred to a specialist.

When analysed, we grouped those FSW holding a visitor's visa as non-local workers. New immigrants were grouped as local workers. SPSS Version 13.0 was used for data management and analysis. Because there was only one CIN-II, we group it with CIN-III for statistical analysis. We used descriptive statistics for the FSW personal and social data; chi-square test to compare the results, and multi-nominal logistic regression for associations of risk factors. The $p \leq 0.05$ was taken as statistically significant.

3. Results

245 FSWs were recruited through the outreach workers of Ziteng and by word of mouth. Their age ranged from 20-57 years, of whom 75 (30.6%) were illegal migrant workers on a temporary (visitor's) visa. Table 11.1 shows their demographic and family characteristics. In this study, there were 199 women (81.9%) with children in the family and 76 (38.2%) of them with two or more children. Of these, 104 (53.7%) were bringing up their children without a partner. 24.9% of them smoked while only 22.0% did regular exercise. Comparing to non-local FSWs, the local FSWs were more likely to be older ($p=0.002$), smoker ($p=0.032$), and single-mother ($p=0.006$).

Sexual behaviour and gynaecological history is presented in Table 11.2. 67.4% of them performed regular vaginal douche with over-the-counter medicine. 69.7% of FSWs reported having gynaecological examinations in the past but 35.5% ever had a cervical smear. Of the 186 FSWs who answered this question, 55 (29.6%) had no regular sex partners; 115 (61.8%) had one regular

partner; and, 16 (8.6%) had two or more. 80.0% of FSWs "always" used condom with clients but only 35.1% insisted condoms when they had sex with their own sexual partners.

In our sample, the local FSWs were significantly more likely to have Pap smears done (p=0.001) and gynaecological checks (p=0.04). (Table 11.2) There were no differences between the two groups of FSWs in terms of sexual risk behaviour such as condom use with a client (p=0.09) or with a partner (p=0.97), vaginal douche (p=0.41), and the history of STIs (p=0.94).

A total of 236 Pap smears (96.3% of the recruits) were performed, of which 207 (87.7%) were reported as "normal" (Table 11.3). The non-local workers were significantly more likely to have abnormal Pap smears (p=0.04). Table 11.4 shows the follow-up pattern of the patients. Of these 236 FSW, 113 (47.9%) returned for results in two weeks, 71 (30.1%) in 3-4 weeks, 24 (10.2%) in more than one month and, 28 (11.9%) defaulted at follow-up visits and lost to contact. Of the 29 abnormal Pap smears, only three had previous cervical smears (two workers two years ago and one worker five years ago). We repeated the cervical smear in seven (24.1%) workers (four CIN-I and one CIN-III reverted normal; one CIN-II reported reactive change in squamous cells; and, one CIN-I became CIN-III). Nine sex workers were referred for further management (two with reactive changes in squamous cell; two with CIN-II; and five with CIN-III). We failed to contact 13 FSWs (44.8%) with abnormal Pap smear results: four with reactive changes and nine with CIN-I, of whom eight were local sex workers.

3. Summary

In summary, an outreach well-women clinic for FSWs is not only feasible but very valuable in preventing cervical cancer in FSWs. The follow-up rate was high. The clinic does not only

facilitate the early detection of cervical cancer but potentially provides an opportunity for health education in the prevention of STI, and the proper care of the urogenital system among Chinese FSWs in Hong Kong.

Characteristic		Local FSW (N'=170)		Non-local FSW (N"=75)		Total (N=245)	Degrees of freedom	nominal p-values
Mean age (in years) with Standard Deviation (SD)	170	36.6 (6.00)	75	34.0 (5.78)	245	35.8 (6.04)	NA*	0.002
Characteristics	**N**	**Local FSW n (%)**	**N**	**Non-local FSW n (%)**	**N**	**Total n (%)**	Degrees of freedom	nominal p-values
Smoking	170		75		245			
Yes		49 (28.8%)		12 (16.0%)		61 (24.9%)	1	0.032#
No		121 (71.2%)		63 (84.0%)		184 (75.1%)		
Regular exercise	170		75		245			
Yes		41 (24.1%)		13 (17.3%)		54 (22.0%)	1	0.23
No		129 (75.9%)		62 (82.7%)		191 (78.0%)		
Sexual partners	164		69		233			
Married / cohabitated		56 (34.1%)		43 (62.3%)		99 (42.5%)	1	<0.001#
Single/ divorced/ widowed		108 (65.9%)		26 (37.7%)		134 (57.5%)		
Education	162		75		237			
Primary or below		28 (17.3%)		13 (17.3%)		41 (17.3%)	2	0.80
Low secondary		91 (56.2%)		45 (60.0%)		136 (57.4%)		
High secondary or above		43 (26.5%)		17 (22.7%)		60 (25.3%)		
Number of children in family	169		74		243		5	0.60
0		26 (15.4%)		18 (24.3%)		44(18.1%)		
1		90 (53.3%)		33 (44.6%)		123(50.6%)		
2		39 (23.1%)		16 (21.6%)		55(22.6%)		
3		8 (4.7%)		3 (4.1%)		11 (4.5%)		
4		4 (2.3%)		3 (4.1%)		7 (2.9%)		
5		2 (1.2%)		1 (1.3%)		3 (1.3%)		
Marital status of FSW who has child(ren)	143		51		194		3	0.006#
Married		54 (37.8%)		33 (64.7%)		87 (44.8%)		
Co-habited		2 (1.4%)		1 (2.0%)		3 (1.5%)		
Single		14 (9.8%)		1 (2.0%)		15 (7.7%)		
Divorced		66 (46.1%)		15 (29.5%)		81 (41.8%)		
Widowed		7 (4.9%)		1 (2.0%)		8 (4.2%)		

*NA: Not applicable

statistically significant at 0.05 level

Table 11.1 Demographics and family characteristics of FSWs (N=245) in the study

Behaviours	Local FSW (N'=170) N	n (%)	Non-local FSW (N"=75) N	n (%)	Total N	n (%)	Degrees of freedom	Nominal p-value
Non-commercial sexual partner	138		48		186			
0		45(32.6 %)		10(20.8%)		55(29.6%)	2	0.29
1		80(58.0%)		35(72.9%)		115(61.8%)		
2 or more		13(9.4%)		3(6.3%)		16(8.6%)		
Condom use with a client	167		73		240			
Always		138(82.6%)		54 (74.0%)		192(80.0%)	1	0.09
Not always		29 (17.4%)		19 (26.0%)		48 (20.0%)		
Condom use with a partner	123		68		191			
Always		41 (33.3%)		26 (38.2%)		67 (35.1%)	1	0.97
Not always		82 (66.7%)		42 (61.8%)		124 (64.9%)		
Vaginal douching	167		72		239			
Yes		110 (65.9%)		51 (70.8%)		161(67.4%)	1	0.41
No		57 (34.1%)		21 (29.2%)		78 (32.6%)		
Previous STI	167		72		239			
Yes		45 (26.9%)		19 (26.4%)		64 (26.8%)	1	0.94
No		122 (73.1%)		53 (73.6%)		175(73.2%)		
Previous gynaecological check	168		73		241		1	0.04#
Yes		124 (73.8%)		44 (60.3%)		168(69.7%)		
No		44 (26.2%)		29 (39.7%)		73 (30.3%)		
Previous Pap smear	169		73		242			
Yes		72 (42.6%)		14 (19.2%)		86 (35.5%)	1	0.001#
No		97 (57.4%)		59 (80.8%)		156(64.5%)		

statistically significant at 0.05 level

Table 11.2 Sexual behaviours and gynaecological screening history of FSWs (N=245) in Hong Kong

Results	Local FSW N	Local FSW n (%)	Non-local FSW N	Non-local FSW n (%)	Total N	Total n (%)	Degrees of freedom	Nominal p-value
Pap smear test	162		74		236			
Normal		147 (90.7%)		60 (81.1%)		207(87.7%)	3	0.04[#]
Reactive changes in squamous cells		4 (2.5%)		2 (2.7%)		6 (2.5%)		
CIN I		10 (6.2%)		6 (8.1%)		16 (6.8%)		
CIN II-III		1 (0.6%)		6 (8.1%)		7(3.0%)		

[#] statistically significant at 0.05 level

Table 11.3 Pap smear results of FSWs (N=236) attended the outreach service

Characteristics	N	n	% of N
Return for results	236		
In 2 weeks		113	47.9%
In 3-4 weeks		71	30.1%
More than 1 month		24	10.0%
Failed to turn up for appointments		28	11.9%
Follow-up of abnormal smear	29		
Repeat smear		7	24.1%
Referred		9	31.1%
Failed to contact		13	44.8%

Table 11.4 Follow-up results of FSWs (N=236) who had a Pap smear at the outreach clinic in Hong Kong

Chapter Twelve Discussions and Recommendations

1. Summaries of Findings

Commercial sex has always been an important target of political, medical and therapeutic intervention as well as of scientific study. From the literature review I noted that the outbreak of the HIV epidemic and the fear of its rampant spread in the late 80s redirected the research focus of sex work to HIV. International research from the early 90s has convincingly shown that sex work *per se* is not a major vector in the spread of HIV in developed regions, although it might not be true in developing world where economic considerations rather than personally formed moral conceptions of public decency had shaped their work choices. Condom use in commercial contacts is generally high whereas intravenous drug abuse and unprotected non-commercial sex are identified as the most important factors for HIV among female sex workers. Success of the effects of STI/ HIV prevention programmes aimed at sex workers and their clients was variable, but what becomes more apparent is that self-determination, autonomy and control are crucially important when it comes to HIV risks as well as their general health and well-being. Empirical analyses of the organisational aspects, hierarchical structures or working relations in sex work are limited and they are often conducted in the Western world only.

In Hong Kong, the commercial sex industry has no formal recognition by the government or the health service, yet it is an integral part of her social and economic life. Again, our understanding of the health of FSWs in Hong Kong from the literature is very patchy: it tends to focus on sexual health and often fails to take into account the perspective of FSWs themselves, and the complex issues and problems they face. Arguably, these women are no different from the rest of the population, except they may have more specific health risks and needs. In Hong Kong and

elsewhere sex workers often concurrently belong to other at-risk and excluded groups such as alcoholics and drug addicts, serving to compound their already limited access to adequate health and social services (Najman, et al. 1982). From my review of the local literature, undoubtedly more research is thus needed to understand their perceptions of health and their behaviour, and health professionals should explore different models of health care delivery to meet these women's needs.

Chapter 7 indicates that most street FSWs we sampled have crossed the Chinese border to work in Hong Kong for economic reasons. Nevertheless, most of their income goes to support their dependents with relatively little spared for themselves. Overall, the FSWs surveyed scored significantly lower in physical, psychological, and environmental health of the WHOQOL-BREF (HK) when compared to non-sex workers of the same age groups and sex in Hong Kong. They often have a negative image about themselves and feel life to be un-meaningful. However, no statistical significance was observed in the domain of social relationship in the WHOQOL-BREF (HK) between the sex workers and the control group.

Chapter 8 reported the FSWs scored significantly lower the environmental domains in WHOQOL-BREF (HK) measures when compared to the non-sex working subjects of the same age groups. They were found to be poorly educated. Many worked long hours with most of their income sent back home to China. A large number of our respondents had experienced violence, robbery, and verbal insults. Due to the illegal working status of these mainland Chinese FSWs, there was neither protection for them from the police nor the ability to report crimes occurring within the workplace or in the streets without the risk of criminal charges or deportation.

In Chapter 9, we find more than a quarter of the respondents reported to have considered or attempted suicide, with the methods of choice being slashing their wrist, taking medications or jumping. Our respondents had particular health concerns in areas such as HIV infection. Other

dangers that were inherent to the sex industry such as having identity cards checked frequently, and the fear of being arrested by police were strongly associated with poor psychological health and suicidality, although such a relationship between work and psychological health was not clearly defined. In this analysis we did not attempt to measure the effect of marginal changes in work environment and job conditions on psychological well-being and suicidality but rather we were able to examine the associations between the two factors.

In Chapter 10 we described the current use of health services by the street-based FSWs and explored beliefs behind these health behaviours. While these FSWs' perception of personal health was good, a considerable proportion suffered from a number of illnesses but the consultation rate was only a third of the mean rate of the general population in Hong Kong. Many street workers experienced difficulty in utilising health service in Hong Kong but even when they did, it was mainly for acute problems. Affordable access to health public services was excluded and many found private services unaffordable due to the high prices charged by the doctors. It was common for these women to self-medicate, delay in seeking medical help, or travel back to China for treatment.

As we have seen in Chapter 10, FSWs who are most in need of a health service are often deprived of it in Hong Kong. Using early detections of cervical cancer in this group of women as an outcome measure, Chapter 11 reported whether an outreach health delivery model could be a feasible option. A total of 245 FSW were screened at the outreach clinic set up in a NGO in a red light district from March 2004 to December 2005. A questionnaire regarding their lifestyles and demographic details was used before a gynaecological history, Pap smear and other health check-up were conducted. Of 235 women tests, 9.8% of them had CIN I- III and places of origin were found to be important risk factors for abnormal Pap smears. The non-local workers were significantly more likely to have abnormal Pap smear ($p=0.04$). 88.1% of the women who had the tests returned

for follow-up with poorer compliance among those with abnormal result. We conclude that an outreach well-women clinic seems to an alternative option for these women and an effective way in the early detection of cervical cancer.

2. Strength and Limitations of the Project

This project involved a survey and a focus group discussion among street FSWs in Hong Kong. This was followed by setting up an outreach clinic to address some of their health problems. The strengths of the survey are that:

1. It recognises that quality of life is a complex and multi-dimensional one and thus an assessment tool, a well-validated standardised WHOQOL-BREF allows comparison between populations and a supplementary questionnaire is added to reflect the complex and multi-dimensional nature of the studied topic. For example, the questionnaire includes various aspects of life-styles including diet, exercise, sleep and leisure activities.

2. Secondly, this survey managed to approach and reached the estimated sample size in five months in a group of women who were usually very secretive and operated in an underground manner. This may be related to the fact that AFRO has been working in this area for a long time and, thus certain relationship and trust has been established.

3. Using the five-hierarchical steps to map out the decision-making process in Chapter 10 has been very constructive in two respects. First, the variation between different choices in the management of one's health has been well captured in this model and thus allows identification of an individual step or factor that appears as a barrier to better health

access. For example, not all perceived illnesses end up with medical consultations and, when they do, the services can be provided by a range of institutions. Secondly, people with different socio-demographic characteristics may explain variations in a particular choice and hence between-group comparisons may shed light on the factors that influence the individual behaviour.

The strength of a supplementary focus group discussion is that:

1. The cross-sectional survey can help to map out the characteristics and patterns as well as factors which may be associated with the psychological well-being or health-seeking behaviour (the determinant model). Nonetheless a more complete picture of the thinking process behind these actions or choices are unfolded with the supplementation of the focus group discussion (the pathway model). Such data is important to help devise quality health care services that are relevant and sensitive to the needs of this substantial subgroup of society and provide innovative approaches to address the health inequality experienced by this group of women.

The survey, however, has a number of limitations:

1. As we can see from Table 7.1, the demographic characteristics of these two groups of women are quite different suggesting they represent two distinct groups of people. This illustrates how difficult it is to find an appropriate group for comparison when this study was planned. The investigative team decided to have selected randomly from a large dataset and matched them by age groups and sex, and then controlled for potential confounding factors including age, education and marital status in the analysis. In this way it was hoped

that our sampled sex workers could be benchmarked with a more representative sample of the general public to give some idea how the FSWs compared with them.

2. The investigators recognise there is a time gap between the sample collected and the comparison group. However there was nothing dramatic that happened between 1999 and 2003 in Hong Kong for us to believe that the way of life and psychological well-being has changed dramatically during this period.

3. The sample size of 89 women represents a small proportion of street FSWs in Hong Kong. In other words, there is a potentially large random error. In theory, a sample size is determined by the population characteristics to be studied and in this case its estimation was based on the capacity to detect a statistical difference from WHOQOL-BREF (HK) scores of the general population in Hong Kong but such an estimation may not apply to a number of tests other than the comparison of WHOQOL-BREF (HK) scores subsequently conducted.

4. The sampling method is such that no random sample is obtained (hence potentially self-selected bias) and there is a question of representativeness. It was done in this way because of the secretive nature of the commercial sex work and the study matter and indeed this method of sample collection is common, as seen in a recently published article (Jeal and Salisbury 2004). It is specifically designed to investigate a particular group of sex workers that has a higher exposure to violence and discrimination. In view of this sampling frame, caution has to be made when generalisation of study results is therefore required.

5. Specifically, based upon a cross-sectional study, we are unable to identify the specific timing and relationships of our respondents' responses. For instance, we are not able to distinguish whether the suicide attempts had occurred before or after the respondents had

entered sex work. However, even if the temporal odering was known it would not be safe to infer causality between the various factors discussed above, ascertained in the course of an observational/ ross-sectional study.

There are also limitations associated with the focus group discussion:

1. The original thinking when we designed these studies was to analyse the data of the survey first and to use the findings from the survey as a basis for further exploration of the social processes and reasoning behind those choices. Therefore all women who participated in the survey were invited to participate in the focus group discussion and those who had expressed an interest would have their names and contact numbers recorded. It took us sometime to analyse the data and prepare semi-structured questions for the focus group discussion which eventually took place some months afterwards. A majority of potential informants were lost to contact and thus resulted in very small sample size which is likely to fail to meet the *saturation* theory in Chapter 6. If I were to do this again I would recruit more street FSWs (not only just those who had participated in the survey) to join the focus group discussions on the assumption that the findings from the survey should be common among the street sex workers.

2. Last but not least, as the study designs are essentially of an observational nature, the findings rely on self-reporting with potential memory bias (or known as recall bias) or whether they told the whole truth. I have spent considerable time with the outreach team to familiarise myself with potential respondents in order to gain their trust. In addition, I have been providing free medical consultations for sex workers at the drop-in centre of AFRO the year preceding the research.

There are several important caveat and limitations to our outreach clinical model study:

1. One of the problems put forward with the new outreach model is whether it is more acceptable to the clients it intends to serve as compared to the existing service. Ziteng approached their clients from their old record, those they met on the street and through snowballing method. Since our subjects were recruited by convenience sampling method and hence highly biased such a comparison would not be meaningful and we were unable to answer the question of acceptability. However the outreach clinic is by no means a replacement of the existing provision of the health care system in Hong Kong. At best it will only serve as a complementary or alternative service that some of our target clients would otherwise be able to access.

2. The satisfaction rate of our service could have been evaluated using a questionnaire and it would be a very useful piece of additional information looking at the subjective usefulness and suggested ways of improvement of the outreach clinic. Being the feasibility study it is a preliminary experience that would help us to plan the evaluation more thoroughly in the future.

3. A longitudinal study is needed to assess the long-term effects of the outreach clinic and ideally to follow-up those women with an abnormal Pap smear to see whether this intervention will reduce mortality and morbidity compared to the group without such an intervention. Currently, local women with an abnormal Pap smear would be referred to the Obstetrics and Department for colposcopy but they only accounted for a very small number of people. Most FSWs who come from China are not entitled to the effectively free medical service in Hong Kong and a referral letter or sometimes a recommendation of a local hospital in China is given. Once they leave sex work or Hong Kong they normally change

the mobile number which makes any effort of following them up virtually impossible. We have yet found an acceptable way for them to be followed-up to help us the evaluation without breaching the confidentiality or privacy or without additional resources to offer colposcopy or further treatment in the secondary care setting.

3. Strengths and Weaknesses in Relation to Other Studies, Discussing Important Differences in Results

In the survey, a majority of the sampled sex workers worked over seven hours a day (52.8%) or over five days a week (78.7%). This is consistent with research from the Netherlands in which an average working day of nine hours was found in one-third of subjects who worked more than 40 hours a week (Venicz and Vanwesenbeeck 2000). Notions that sex work is an easy way of making fast and large sums of money were not supported by our data. Rather over half of the studied women earned less than £366/month (which is roughly one third of the average Hong Kong monthly income) (Hong Kong Census & Statistics Department 2003). This salary is well above what these women could have made in China (National Bureau of Statistics of China 2003), given their educational background and social status. However, most of their income is spent to support their dependents, with relatively little being left for themselves. Fundamentally, it is the disparities in poverty and wealth levels between China and Hong Kong which encourages these women to risk their health and safety to work in the streets. This has been more the case since June 2003 when China permitted independent travellers, a move which is welcomed by many, as it is seen to be beneficial to the local economy. Therefore, the success of the recent clean-up efforts by the Hong Kong government will be unlikely to reduce the cross-border sex trade, let alone eradicate it. For example, in China, Gil and Anderson (1998) have documented a resurgence of sex work, despite the government's legal efforts to try to control it.

The unpredictability of the 'street' in terms of harassment by the police and vulnerability to passer-bys means the occupation demands full attention. Thus, sex work itself poses a high degree of occupational danger from which very little protection is offered and women must remain highly vigilant (Brewis and Linstead 2000). Sex workers on the streets are more at risk than are other sex workers, both in terms of legal intervention and police arrest (Davis 1993), as well as with experiences of violence. Internationally, the literature further reports that the level of public violence directed against FSWs is relatively high (Lerum 1999; Wan 2001) signifying a rejection on many levels. Church et al. (2001), for instance, have recently compared street and other sex workers in this respect, and they found that street workers experienced more physical violence, than did other sex workers. In the Netherlands, (Vanwesenbeeck 2001), one in four female sex street workers had experienced one or more forms of violence (treats, physical, sexual) on their working sites during the past year. Therefore, it is not surprising that in the reported study women scored significantly lower in environmental health when compared to non FSW of the same age groups and sex in Hong Kong (Chapter 8).

Due to the illegal working status of these mainland Chinese FSWs, there was neither protection for them from the police nor the ability to report crimes occurring within the workplace or in the streets without the risk of criminal charges or deportation. Miller and Schwarts (1995) found that all street sex workers in Los Angeles had experienced some form of sexual assault at work. Dalla (2000) documented common experiences of abuse and exploitation for female street workers and Lalor (2000) found 93% of a sample of 14 to 18-year-old prostitutes had been beaten, three out of four had been raped at least once. What contrasts with the international literature in the current study is the low report of rape; this may be a culturally significant interpretation in the place of rape in the sex industry. The fear of police is given further emphasis by the public stigma attached to the

industry due to a notion of sexual corruption and pollution by association with the sexual disease (Lichtenstein 1999).

A high proportion (89.9%) of our respondents reported that they had lived under stress. We found that FSWs had significantly different sources of stress when compared with the general population. The Healthy Living Survey (Department of Health 1999) was conducted in 3270 general public respondents in 1999 by the Hong Kong Department of Health to describe and characterise health behaviours, social support, self-perceived health, as well as exercise and leisure activities of the general population in Hong Kong. A high proportion of respondents (40%) to the Healthy Living Survey reported that their career or jobs was one of the greatest source of pressure, followed by finance (15.5%), household work (15.2%), and family or inter-personal relationships (11.5%). Approximately 20% did not report any pressure at all. In contrast, most of the FSWs in our study reported that their greatest source of stress came from finance (73.0%), followed by family or other social relationship (39.3%), and occupation (23.6%).

There are no reliable statistics on the number of suicide attempts in Hong Kong per year but it was estimated that the suicide rate in Hong Kong had increased from 9.6 per 100,000 in 1981 to 15 per 100,000 in 2001 (Yip, et al. 2003). Indeed suicide was ranked sixth in the leading cause of deaths in Hong Kong, accounting for about 3% of all deaths in 2001 (Yip, et al. 2003). Similarly, it was estimated that approximately 287,000 individuals commit suicide every year in mainland China- ranked the fifth most common cause of death (China Daily 2004). Jumping from height was the most commonly used method for the general population accounting for 40% of all deaths by suicide. Hence suicide has increasingly become an important issue in Hong Kong and mainland China. In our study, more than a quarter of the respondents reported to have considered or attempted suicide, with a number of them slashing their wrist, taking medications or jumping as methods of attempting suicide.

Even though there was insignificant differences in the social support domain (as measured by WHOQOL-BREF) between our sample and a matched sample of women from the general population, a significantly higher proportion of our respondents reported having no social support when needed (34.8% of FSWs versus 22.5% of Healthy Living survey). Indeed, it was difficult for FSWs to offer support or protection to one another given the competitive and personal nature of their work. International studies have contended that few female sex-workers developed friendships or emotional attachments with other female sex-workers and that "burnouts" among female indoor sex-workers could be explained by lack of social support in their working environments, experiences of violence, stigma, and negative working motivation (Dalla, 2002; Vanwesenbeeck, 2001). Social networks and internal resources have been found to mediate the effect of perceived stress on mental health (Bovier, et al. 2004) and women who were socially isolated were more likely to have poorer mental health than those who were socially integrated (Achat, et al 1998), thus we would expect resultant lack of social support to exacerbate an already stressful work environment.

A considerable proportion of our sampled FSWs suffered from illnesses while working in Hong Kong, but the consultation rate (0.16 per month) was a third of the mean monthly consultation rate of 0.48 among the general population in Hong Kong (Lam, et al. 2002). Our data suggested that many of the FSWs experienced difficulty in utilising health service in Hong Kong but even when they did, it was mainly for acute problems, a pattern seen in the developing world. Access to health public services was excluded and many found private services unaffordable due to the high price charged by the practitioners. Therefore, it was common for these women to self-medicate or delays in seeking medical help. The other alternative was to travel back to China for treatment, resulting in additional sufferings, delay in treatment, travel expenses as well as an indirect loss of income. This finding is in contrasted with a similar study conducted in the United Kingdom on 72 street sex

workers in which the GPs were identified as a main source of care providers (Jeal and Salisbury 2005).

Due to the fear of contracting STIs and personal and situational inability to seek medical treatment when needed, some resorted to using ciprofloxacin presumably as prophylaxis against gonorrhoea and relatively uncommon genital ulcers. Such use, however, does not only induce unpleasant and unnecessary side effects (common ones are gastrointestinal disturbances, headache, and dizziness and sleep disorders) and increase resistance of the antibiotics in the community, it may offer a sense of false reassurance of protection from STIs. In Hong Kong, ciprofloxacin is not recommended (Chong et al. 1988) for the treatment of both gonorrhoea and non-gonococcal urethritis due to its high resistance locally (Department of Health 1999). Another example is that these FSWs reported high usage of vaginal douching and personal hygiene, suggesting a misplaced form of self-protection against STIs and a possible level of self-disgust.

In terms of preventive health the Healthy Living Survey showed that 50.6% had done something to improve their health in the past twelve months with the three top ranked activities being: exercise (57.3%), consuming more healthy food (10.4%) and less fatty food (8.2%) (Gil, et al. 1996). Comparatively, the motivation for improving health is lower at 38% among our sample but a high emphasis was placed on health checks (Table 10.2). Nonetheless, our study reveals that about two-third of the women have never had a HIV test or a Pap smear and over half did not have any STI screening respectively. Given the current concerns on the HIV/ STI epidemic in the region (Shang and Ma 2002; Vandekerckhove 2004), the government cannot afford to turn a blind eye to the health of these women.

Using the outreach model we find that, despite 69.7% of FSWs reported having had gynaecological examinations previously, only 35.5% realised that they should have had a cervical smear as well. As predicted in the "Inverse Care Law" (Parikh, Brennan and Boffetta 2003), those in need are less likely to receive the care: 9.8% (23/235) FSW had pre-invasive lesions (CIN I-CIN III) in contrast to 5.5% (395/3601) of the Hong Kong general population (Chueng, Szeto and Ng 2004). Comparing to other studies of abnormal smears in sex workers, it is much higher than those found in Singapore (5.6%) (Chan, et al. 2001) and Austria (6.3%) (Gitsch, Kainz and Reinthaller 1991), but more comparable to a startlingly high prevalence in Venezuela (13.9%) (Nunez, Delgado and Giron 2005).

The outreach study also provides healthcare providers and policymakers the essential information about the FSWs and their work that are important in organising future health services and interventions. As we can see, majority of our sampled women had dependents and half were single mothers. Traditional public genitourinary clinic of 9am-5pm opening hours may not accommodate their needs. It is also of concern that the 16 FSWs (8.6%) admitted having more than one non-commercial sex partners, of whom only two reported "always" using condoms. As compared to commercial sex activity, 80% of the FSW "always" used condoms, an improvement over the 71-75% reported in Hong Kong for the years of 1999-2000 (Chan, Ho and Lo 2000). Many FSW had undesirable health practices and, thus required intensive and proactive intervention. Opportunistic education on safe sex at the time when they seek medical help, whether it is resulted from increased perceived susceptibility or severity, will act as a strong motivating factor for a change of behaviour (Rosenstock 1996; Becker 1974). We conducted considerable education on vaginal douching in the outreach clinic setting as most of them douched regularly and frequently.

4. Meaning of the Project: Possible Explanations and Implications for Clinicians and Policymakers

While a score of 3.4% for rape reported in our survey was low as compared to other published reports, it might reflect a rather unique situation of street workers in Hong Kong– most of these women were not employed as sex workers when they returned home to mainland China between visits to Hong Kong. In other words, their sex work history has been relatively short. In addition, the findings on rape pose confusion depending on interpretation of rape within the sex industry. To illustrate this, 20.2% of the workers stated the instances of unpaid service and this unmet condition for the consented sex to the researchers were equivalent to 'rape'.

At stake here are issues of power and powerlessness in which visible and overt forms of domination is exerted on sex workers lives through the current legal system. While sex work is not illegal in Hong Kong, virtually every activity connected with it is. When combined with economic hardship and vulnerability these can contribute to a state of helplessness and entrapment with the associated detrimental effects on their health. Sex work also carries a double stigmatisation accorded by Rubin (1993) to a 'sexual hierarchy', in which sex work falls at the lowest rung, being regarded as 'bad', 'abnormal' or 'unnatural' as it is 'promiscuous, non-procreative, causal and commercial'. The stigmatisation occurs both at the personal and societal levels, arising from occupational risk of violence as well as carriers of diseases that may contribute to their poor psychological and physical health. (Kong 2004)

McIntosh (1996: 201) argues "sex work implies at once a challenge and an acceptance of the double standard of the *status quo*" as such that it can neither be condemned nor embraced wholeheartedly". Clearly, despite the pro-feminist debate on FSWs being active in decision-making, the link between poverty and sex work needs to be addressed in the case of mainland female sex workers. In

particular, the income disparities between Hong Kong and mainland China add poignancy to the economic hardship of these women and limit the 'free choice' argument. Another factor may be that sex work for some of these women provides the opportunity to live an autonomous life, in which they are no longer dependent on an abusive, unreliable, or unfaithful partner.

In respect to occupational health and safety of sex workers, Hong Kong laws offer little protection. Besides inhibiting the promotion of safer sex information and associated products (a significant workplace hazard), commonplace practices include arbitrary and unfair work rules such as unfair dismissals, bonding, fining and withholding payment to sex workers. Sex workers are denied the protections other workers have a right to expect (e.g., the right to negotiate the terms and conditions of their employment, the right to a healthy and safe working environment and freedom from sexual harassment). Further, many sex workers in massage parlours and escort agencies are not allowed to decline clients or determine their own work hours. This inequality before the law makes sex workers vulnerable to intimidation and exploitation by clients and employers, including the owners of sex industry premises. Conviction for a sex work-related offence can erode self-esteem and affect sex workers for the rest of their lives, impairing their ability to gain alternative employment, to travel, and to obtain finance or insurance services.

Arguably access to health care is a fundamental human right and that right is often deprived because of the legal, financial and social status of the street sex workers. However, the current empirical understanding of the health and health service utilisation by sex workers is unbalanced and often heavily weighted towards sexual health. Since April 2003, non-Hong Kong residents have been subject to a fee seven times higher than what locals are paying when availing of medical services in Hong Kong. Obviously, this has deterred many mainland Chinese FSWs from seeking medical services and treatment even when needed. It is thus important to re-open this debate as to whether these FSWs should be provided with health services based on humanitarian and public health

grounds, or whether society should limit their access to health services because (FSWs as non-contributors to Hong Kong's tax system) it would be unfair for people of Hong Kong to bear their medical expenditure. Such a debate would at the least contribute to the creation of a coherent policy across different government departments.

The findings of this project on a vulnerable sub-population expose a number of weaknesses in the Hong Kong's current health care system with recommendations on provision of minority healthcare highlighted. My personal vew is that sex workers (whether we are agreeable to it or not) are a sub-sector of the population who have common health problems as well as more specific health risks which require greater sensitivity. It would be more realistic to balance the basic rights of these vulnerable women to provide them access to health care and safety without advocating sex work by providing, for example, the most basic service through an NGO at a low profile. When setting up this service, it is just as important as addressing the health issues of these migrant sex workers using a patient-centred holistic approach, as it is to reduce STIs and HIV among the sex workers because the two are closely interrelated.

Health professionals nowadays are faced with the challenge to be more responsive to the health and welfares of FSWs. While health professionals may not be able to alleviate the underlying causes of stress, it is important to understand the cultural and social context of street FSWs' lives to be able to respond to their needs for medical attention. Further education on history taking and management of STI is required to help Hong Kong health professionals overcome many of the cultural barriers in discussing sensitive issues such as sex, STIs, condom use, and psychological concerns such as stigmatisation and powerlessness. It is also paramount to provide a clear educational message to the general public regarding the health risks and costs of commercial sex, and the importance of self-protection. Public campaigns for destigmatisation and decriminalisation need to be conducted as part of a multi-strategic approach in addressing this issue.

Beliefs about how to acquire HIV/ STIs and links to promiscuity and discrimination resulted from the fear of spreading the disease is a repeated theme in our study. These beliefs strongly undermine the health-seeking behaviours and the efforts of many STIs/ HIV prevention programmes. This, in turn, results in low level of disclosure and inaccurate history when presented to the medical service. Therefore, measures to convince medical professionals to take sex workers' health concerns seriously and treat them with empathy have not been enough. It is therefore important that health professionals and social workers serving this population have awareness of mental health issues (particularly PTSD and depression) and the need for social support in order to reduce social marginalisation. One could argue that many sex workers had come from mainland China and thus the responsibility of providing them free venereal medical services should not fall onto the taxpayers of Hong Kong, but the very fact that the business targets of these sex workers are the local men living in Hong Kong and ultimately they could spread the STIs to their wives and families. Therefore, it might be more realistic to balance these basic rights for these women such as universal access to health care without needing to advocate for such activities. Until then, the stigma associated with STIs and sex work can only be confronted using health education and raising professional and public awareness. Hence personalised health education (particularly on HIV and use of condoms) would be useful to alleviate their concerns and promote public health. At the same time, the sexually active people including female sex workers coming outside of Hong Kong need to be able to access affordable and free health promotion and medical treatment.

Nearly 80% of FSW returned for the results within one month with 11.9% lost to follow-up. Considering the mobile and implicit nature of this population and their work, such compliance is regarded as satisfactory and it shows, with basic education, these women can appreciate the importance and needs of such tests.

5. Unanswered Questions and Future Research

Nonetheless, there are still many questions on the health-related issues experienced by FSWs in Hong Kong remained unanswered. For example, we do not fully understand the role of stigma and how some of the social processes affect their QOL. Further qualitative studies of a larger sample size (so that the *saturation* theory can be reached) are needed to examine both the structural and internalisation of stigmatisation, and how they may affect some of the thinking processes beyond their health-related behaviour and choices. Likewise, further studies are needed to investigate local folk beliefs behind certain self-protective practices such as vaginal douche exercised by Chinese FSWs so that effectiveness intervention can be planned and implemented. Information generated from studies that seek to investigate other groups of sex workers and contextual dimensions of their QOL would be very invaluable in assisting policymakers and NGOs to organise a coherent and relevant health service that meets their needs.

In addressing mental health needs, we find a number of areas that warrant attention. Greater attention is needed on the physical and emotional harm intrinsic to sex trade in order to address potential human rights violations and to provide public education regarding these issues. While we do not advocate for the legalisation of sex work as it is unclear whether it will benefit sex workers or alleviate the problems identified (e.g., Farley, et al. 1998). We do however advocate for the rights of the street FSWs by way of reducing environmental opportunities for abuse and exploitations from pimps and customers. A longitudinal study would be needed to establish causal relationships and to assess the long-term effects (both physical and mental) of working in a dangerous environment and in jobs such as sex work.

When developing future health service for this group of women it is useful to see how many (at least among the local FSWs) to return for a repeated cervical smear at one year and to conduct a cohort study to see if such intervention in long term can reduce morbidity and mortality in these women. A previous study of HPV serotypes revealed large variation of geographic and epidemiological determinants in Asia (Chan 2005) and this will have significant implication in view of the introduction of HPV vaccine in the near future. A separate study of the serotyping of HPV infection among FSW in Hong Kong is now underway.

An area that has lacked proper discussion, thus far, has been financial needs of these FSWs. From our study, it is clear that financial insecurity is pivotal to our respondents' decision to enter the sex trade while at the same time central to their experience of psychological and emotional stress. A multifaceted intervention is needed to address how financial incentives motivate or could be used to change health behaviour and occupational choice. There is a compelling need to re-examine Hong Kong's current economic development opportunities for marginalised and minority women simultaneously with issues regarding human trafficking and human right violations.

So far the literature on sex work is much more about sex than it is about work. It is found that most of our sampled female sex workers are negative about their working conditions and that negativity does not seem to arise from the content of the work itself (i.e. commoditized sexual transactions) but rather from the stigma and fear surrounding the industry (Kong 2004; Holroyd *et al*, 2005). One form of structural discrimination is the limited access to affordable and acceptable health and welfare services for these women. To date, little has been presented in the regional literature on stigmatisation of Hong Kong's female sex workers, in addition to other problems such as economic hardship, homelessness and drug addiction that shape their daily realities. Questions regarding differentiated working conditions and their association with victimisation, risks and well-being are grossly under-researched. Sex workers are often treated as a 'category' and the failure to

differentiate among various groups of sex workers oversimplify the complexity of their social and cultural interactions. What we need to know is how specific legal, cultural and organisational contexts, conditions, features, routines and relations in sex work associate with various aspects of health and well being of specific groups of sex workers.

In general, sex workers have had too little say regarding the design and implementation of intervention programmes, and both their occupational needs and their capacities are undervalued. Sex workers should be involved in all projects aimed at them and should be provided with training when necessary. Closer working relationships should be encouraged between sex workers, sex industry owner/operators, health agencies and local authorities, with the aim of developing a healthy and safe environment which affirms the rights of sex workers and balances the rights of the public. It is further recommended that NGOs should play a stronger role advocating for, facilitating or providing health services to these workers in a culturally sensitive way (Anderson 1968) as well as working on breaking down current high levels of professional and public stigmatisation.

When considering the whole issue of sex work in society, a systematic understanding of use patterns of commercial sex among husbands will also contribute to the in-depth understanding of gender expectations, behaviour and evaluations in family life, and how they serve as a source of tension and anxiety among family members. One of the more important social consequences of sex work is its impact on spousal relations and the marriage system. In fact extramarital sex is a significant reason for marriage and family breakdown. Wives generally consider the husband's use of commercial sex work as a breach in the monogamous marriage contract, which is a source for incidences of various psychosomatic problems as well as increased anxiety for fear of contracting STIs and HIV/AIDS. This affects not only the spousal relationship, but also intergenerational relations as the father is culturally assigned the role of the moral and educational head of the household is undermined. Family members generally perceive the father's extramarital sex as

unethical, and a source of shame. The resultant distrust and tension among family members in turn causes different degrees of malfunction of the family Such a comprehensive study will therefore help to inform policy, education, and services regarding family and marriage life, and help in promoting healthy and harmonious spousal as well as intergenerational relations in society. Studying public attitudes and perceptions of risks associated with sex work will examine inherent biases and inform contemporary health policy in order to reduce STI rates in the community. This information will further provide contextual data for the monitoring of rapidly increasing social and health concerns as cross-border sex work and trafficking of women increase in Hong Kong.

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Appendix 1

WHOQOL-BREF

The following questions ask how you feel about your quality of life, health, or other areas of your life. I will read out each question to you, along with the response options. **Please choose the answer that appears most appropriate.** If you are unsure about which response to give to a question, the first response you think of is often the best one.
Please keep in mind your standards, hopes, pleasures and concerns. We ask that you think about your life **in the last two weeks.**

		Very poor	Poor	Neither poor nor good	Good	Very good
1.	How would you rate your quality of life?	1	2	3	4	5

		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
2.	How satisfied are you with your health?	1	2	3	4	5

		Not at all	A little	A moderate amount	Very much	An extreme amount
3.	To what extent do you feel that physical pain prevents you from doing what you need to do?	5	4	3	2	1
4.	How much do you need any medical treatment to function in your daily life?	5	4	3	2	1
5.	How much do you enjoy life?	1	2	3	4	5
6.	To what extent do you feel your life to be meaningful?	1	2	3	4	5

		Not at all	A little	A moderate amount	Very much	Extremely
7.	How well are you able to concentrate?	1	2	3	4	5
8.	How safe do you feel in your daily life (e.g. political safety, personal safety, environmental safety)?	1	2	3	4	5
9.	How healthy is your physical environment? (e.g. pollution, climate, noise, attractiveness, nuclear safety)	1	2	3	4	5

		Not at all	A little	Moderately	Mostly	Completely
10.	Do you have enough energy for everyday life?	1	2	3	4	5
11.	Are you able to accept your bodily appearance?	1	2	3	4	5
12.	Have you enough money to meet your needs?	1	2	3	4	5

13.	How available to you is the information that you need in your day-to-day life?	1	2	3	4	5
14.	To what extent do you have the opportunity for leisure activities?	1	2	3	4	5

		Very poor	Poor	Neither poor nor good	Good	Very good
15.	How well are you able to get around?	1	2	3	4	5

		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
16.	How satisfied are you with your sleep?	1	2	3	4	5
17.	How satisfied are you with your ability to perform your daily living activities?	1	2	3	4	5
18.	How satisfied are you with your capacity for work? (e.g. paid work, unpaid work, voluntary work, full-time study, take care of your children and housework etc.)	1	2	3	4	5
19.	How satisfied are you with yourself?	1	2	3	4	5

20.	How satisfied are you with your personal relationships?	1	2	3	4	5
21.	How satisfied are you with your sex life?	1	2	3	4	5
22.	How satisfied are you with the support you get from your friends?	1	2	3	4	5
23.	How satisfied are you with the conditions of your living place?	1	2	3	4	5
24.	How satisfied are you with your access to health services?	1	2	3	4	5
25.	How satisfied are you with your transport?	1	2	3	4	5

		Never	Seldom	Quite often	Very often	Always
26.	How often do you have negative feelings such as blue mood, despair, anxiety, depression?	5	4	3	2	1

		Not at all	A little	A moderate amount	Very much	An extreme amount
27.	Do you feel you are accepted by others?	1	2	3	4	5
		Not at all	A little	A moderate amount	Very much	An extreme amount
28.	How easily can you eat the things that you want to eat?	1	2	3	4	5

Appendix 2

The Chinese University of Hong Kong and
The Action For Reach Out
Questionnaire on the Women's Quality of Life

HEALTH

1. How would you describe your health compared to that of other people of your age?
   1. Excellent
   2. Good
   3. Fair
   4. Poor
   5. Unknown

2. During the past 3 months, have you been sick? □Yes □No
   If **Yes→** How many times? _____ times
   What kinds of illness (can be > than 1)? _____
   Did you see a doctor (including a Chinese Herbalist) for each illness? □Yes □No
   Did you take time off work? Y/N For how many days? _____days
   How much did you spend on the doctors and the medicine? _____
   Where did you travel to for treatment? _____
   How long did the treatment take you? _____

3. During the past 3 months, have you had any injury? □Yes □No
   If **Yes→** How many times? _____ times
   What kinds of illness (can be > than 1)? _____
   Did you see a doctor (including a Chinese Herbalist) for each illness? □Yes □No
   Did you take time off work? Y/N For how many days? _____days
   How much did you spend on the doctors and the medicine? _____
   Where did you travel to for treatment? _____
   How long did the treatment take you? _____

4. Do you take any drugs regularly (including self purchasing drugs)? □Yes □No
   If **Yes→** Prescribed by doctor □ or purchase over-the-counter □?
   What are they? _____
   How much did you spend on them? _____

5. Do you have medical insurance? □Yes □No
   If **Yes→** What does it cover? _____

What is the annual premium? _____

For the last 3 months, did you get reimbursed? ☐Yes ☐No

6. Were you working as a sex worker in HK during the SARS period (between Marchs to June 2003)? ☐Yes ☐No

If **Yes**→ Were you scared of being infected of SARS? ☐Yes ☐No

Compared to the past 3 months (July to September), did your income during SARS period

1. Increase (by _____ %)
2. Remains the same
3. Reduce (by _____ %)

How did you protect yourself from SARS infection? (Can choose more than one answer)

☐ Work less

☐ Changing venues e.g. from street to institutions

☐ Screening clients (State how :_____)

☐ Wash hands more often

☐ Wear mask

7. In last 12 months, did you do anything to improve your health or prevent illness?
   1. Yes, I did many things
   2. Yes, I did: some
   3. Yes, I did: a little bit
   4. No

If 4, go to question 8

If 1, 2, 3→ what did you do (can choose more than one)?

☐ Exercise (include any types of exercises)

☐ Weight loss

☐ Reduce tension or stress

☐ Reduce smoking/quit smoking

☐ Sleep and rest more

☐ Reduce drinking alcohol

☐ Have a regular lifestyle

☐ Treat the illness

☐ Eat more healthy food

☐ Body check

☐ Take vitamin

☐ Be hygienic

☐ Eat less fried or high cholesterol food

☐ Others please state: _____

In last 12 months, did you do these things for more than 6 months? □Yes □No

In last 12 months, did you encounter any difficulty when doing these things?

1. Lots of difficulties
2. Some difficulties
3. No difficulty
4. I don't know

What is the most difficult one?

1. No time or very busy
2. Don't want to spend money
3. Nobody do with me
4. Insufficient facility or space
5. Poor health condition/sick/tired
6. Low stability
7. Don't know how to do
8. Others:_____

8. Have you ever been diagnosed to have any chronic illness? □Yes □No

High cholesterol level? □Yes □No □Never tested

Diabetes Mellitus? □Yes □No □Never tested

Hypertension? □Yes □No □Never tested

Others: _____

If **No**, go to Question 9.

If **Yes** to any of above → When was the diagnosis of _____?

_____

Did you receive any treatment?

1. Yes, no medication, just change the eating style
2. Yes, have medication:_____
3. Yes, but I did not follow the doctor's advice because _____

How much do you spend on these treatments in the last 3 months?

_____

When was the diagnosis of _____? _____

Did you receive any treatment?

1. Yes, no medication, just change the eating style
2. Yes, have medication:_____
3. Yes, but I did not follow the doctor's advice because _____

How much do you spend on these treatments in the last 3 months?

_____

9. Do you have the following body check? How often?

	Never	Once in a few years	Once a year	Once in a half year	Once in 3 months	Once a month
Pap smear						
Breast check						

by myself						
Breast check by health professionals						
HIV or other STD check						

10. Do you worry about being infected with HIV? ☐Yes ☐No

Do you know what is HIV?

☐Yes ☐No

Do you think you ever come across HIV +ve clients in Hong Kong? ☐Yes ☐No

Have you ever encountered clients who refuse to use condoms? ☐Yes ☐No

If Yes→ do they pay more?

☐Yes ☐No

Comparing to a woman of the same age but in different occupation, do you think you have a higher risk of contracting HIV?

1. Strongly Disagree
2. Disagree
3. Don't Know
4. Agree
5. Strongly Agree

SLEEP

1. On average, how many hours do you sleep per day? _____
(Normally, from _____ to _____)

2. Do you get undisturbed sleep? ☐Yes ☐No

If **Yes**→ How many times per day? _____
What are the disturbances?

_____

3. Are you still tired after waking up? ☐Yes ☐No

4. Do you take any sleeping pills?
   1. Yes, I often take sleeping pills
   2. Yes, I take sleeping pills occasionally
   3. No

If **Yes**→ How do you obtain the sleeping pills? _____

EATING STYLE

1. How many meals do you have per day? _____

How much did you spend on food purchase or meals over the past week? _$_____

2. Where do you have the following meals usually? ('usually' means more than 4 times a week)?

	No	Prepare myself	Take away order	Western restaurant	Chinese restaurant	Fast food restaurant
Breakfast						
Lunch						
Tea						
Dinner						
Supper						

3. How often do you eat the following food?

	Everyday			Every week			Every month		I don't know
	>2 times	2 times	once	5-6 times	2-4 times	once	1-3 times	Less than once/ not eat	
Fruit									
Vegetable									
Tofu									
Milk									
Fish (except salted fish)									
Other meats (e.g. pork, beef, chicken , duck)									
Fried, high cholesterol food									

4. Do you believe the eating concept of Traditional Chinese Medicine?

1. Yes
2. No
3. Don't know

If **Yes**→ Do you avoid eating too much 'hot' or 'wet' food?

1. Yes
2. No
3. Don't know

Do you avoid eating too much 'cold' food?

1. Yes
2. No
3. Don't know

Do you drink Chinese 'cold' tea?

1. Yes
2. No
3. Don't know

What kind of Chinese 'cold' tea do you drink? _____

What is the benefit of drinking it _____?

How many times do you drink it in each month? _____

EXERCISE and WEIGHT

1. How do you describe your weight now?
   1. Very under-weight
   2. Under-weight
   3. Normal
   4. Over-weight
   5. Very over-weight

   If 4, 5→. Do you use the following ways to reduce weight in the past 30 days?

	Yes	No
Reduce food intake, reduce calories intake or eat low fat food		
Fast for 24 hours or more		
Take weight losing pills without doctors' instruction		
Take weight losing pills under doctors' instruction		
Take part in weight losing program		
Self-induced vomiting after eating or using laxatives		
Other:_____		

2. Did you do exercise in the previous month? □Yes □No

   If yes → just counting those more than half an hour, in previous month, what kind of sports do you play? How often do you play? How much do you spend (including on equipment, club fees and booking)?

   □ Ball games: _____ times; $_____

   □ Running: _____ times/ APPLICABILITY; $_____

   □ Gym: _____ times/ APPILCABILITY; $_____

   □ Swimming: _____ times; $_____

   □ Shopping _____ times; $_____

   □ Others: _____; _____ times; $_____

   If **No**→ what is the main reason of not doing exercise?
   1. No time
   2. Dislike doing exercise
   3. Insufficient facilities near your home
   4. Poor health condition/sick/tired
   5. Nobody to do with
   6. Others:_____

3. Are there sufficient sports facility near your home?
   1. Sufficient
   2. Insufficient
   3. I don't know

4. How much time do you watch TV/ VCD/ DVD per day? ___ hours _____ minutes

5. How much time do you walk per day, including travel to work, shopping? _____ hours

LEISURE TIME

1. What leisure activities do you take part in the last 30 days? How often?

			Every week			Every month
	Yes	No	5-6 times	2-4 times	once	1-3 times
Play computer, internet						
Eat with friends						
Mahjong, cards						
Karaoke						
Shopping						
Bowling or pool						
Film watching						
Disco or pub						
Play TV games						
Others:						

MENTAL HEALTH

1. When needed, are there any people supporting, listening to or helping you?
   1. Yes→ who? _____
   2. No
   3. No need
   4. I don't know

2. Which is the greatest source of stress? (can choose more than one answer)
   1. No stress
   2. Occupation
   3. Housework (include take care of the family)
   4. Family or social relationship
   5. Financial problems
   6. Health
   7. Others: _____

4. Do you have any religious belief?
   1. Yes → What is this religion ? _____
   2. No

5. Have you ever considered or attempted suicide?
   1. No
   2. Only consider: What stops you? _____
   3. Ever attempted suicide→ How many times? _____
      How many times in past 3 months? _____
      How? _____

WORKING CONDITIONS

1. What place are you working in?
   1. Wait for clients on the street
   2. One woman brothel
   3. Massage centre
   4. Karaoke
   5. Night club

2. Do you have to pay (in money or any other form of service) to anyone in order to work at these places?
   1. Yes→ How much? _____
   2. No

3. How many days do you work per week? _____days
   How long do you work per day (including the time waiting for clients)? _____hours
   From _____ to _____
   How do you decide how long you work per day? _____

4. Do you work alone or with many others?
   1. Work alone
   2. Work with many others→ How long have you all worked together? _____

5. Do you work and live in the same place?
   1. Yes→ which district? _____
   2. No→ in which district do you work? _____

6. How often does cleaning take place in your working place?
   1. Several times per day
   2. Once per day
   3. Once per several days
   4. Once per week
   5. Seldom do cleaning
   6. Never do cleaning

7. Do you work during minor illness (such as flu, diarrhoea)?
   1. Yes
   2. No

8. Do you work when menstruation?
   1. Yes
   2. No

9. Have you ever experienced any of the followings at work in HK (maybe more than one)?
   - ☐ Beaten by a client
   - ☐ Not paid by a client
   - ☐ Forced to offer services that did not want to
   - ☐ Raped by a client

- ☐ Robbed by a client
- ☐ Verbally abused by a client

10. Have you ever experienced any of the followings at work (maybe more than one)?
    - ☐ Beaten by a police
    - ☐ Collected money by a police
    - ☐ Have your ID card checked frequently
    - ☐ Pressured to sign statement by a police
    - ☐ Refused bail (for whatever reason)
    - ☐ Photographed by a police

11. Have you ever experienced any of the followings at work (maybe more than one)?
    - ☐ Insulted by a passer-by
    - ☐ Driven away by a passer-by
    - ☐ Reported to the police by a passer-by
    - ☐ Chatted with a passer-by

12. Do you work for a pimp?
    1. Yes
    2. No
    3. Don't know

    If **Yes**→ Have you ever experienced any of the followings at work (maybe more than one)?
    - ☐ Beaten by a pimp
    - ☐ Collected money for protection by a pimp
    - ☐ Seized all money from you by a pimp
    - ☐ Requested to offer free services to a pimp
    - ☐ Requested to offer free services to a client by a pimp
    - ☐ Raped by a pimp

13. Are you afraid of being arrested?
    1. Yes
    2. No
    3. Don't care
    4. No choice

14. How do you avoid being arrested?
    1. Stop working temporary
    2. Assign someone as a watch-dog
    3. Begging the police for leniency
    4. No method

15. Are you aware of your rights after being arrested?
    1. Yes→ What are these rights? _____

2. No

OTHER QUESTIONS

1. How do you rate the responsibility of the government FOR your health (0-100%)? _____%

2. How do you rate your responsibility on your own health (0-100%)? _____%

3. Which of the following need more resources from the government, treatment of diseases or prevention of diseases?
   1. Treatment
   2. Prevention
   3. Both are sufficient
   4. Both need more resources
   5. I don't know

4. In terms of **solar calendar,** what are your month and year of birth?

_____

5. Where are you born?
   1. Hong Kong
   2. Guangdong province
   3. Other Chinese province: _____
   4. Other country: _____

6. How long have you been living in Hong Kong? _____years _____months

7. Weight? _____lb or _____kg Height? ____feet_____inch or _____cm

8. Have you married?
   1. Single
   2. Married→ Are you living with your husband? □Yes □No
   3. Co-habited
   4. Divorced
   5. Widow

9. Do you have any children / younger siblings (aged 18 or below) to take care at home?
   1. Yes→ How many ? _____
   2. No

10. What is your education level?
    1. No formal education or kindergarten
    2. Primary school
    3. Form 1 to 3 (Low secondary)
    4. Form 4-5 (High secondary)
    5. Matriculation
    6. University or above

11. Before the current job, what was you previous job?
    1. Unemployed before
    2. Student

3. housewife
4. Employed→ what is it?_____

12. How much do you earn per month from your job?
    1. less than $10000
    2. $10000 to $20000
    3. more then $20000
    4. Unstable
    5. Don't want to answer

13. How much money do you receive as tips per month? _____

14. What proportion of the money you earn do you spend on yourself per month (including rent, food and daily expenses)? _____%

15. What proportion of the money you earn do you give to others per month (including remittance to family and friends, protection fees etc)? _____%

Appendix 3

Antibiotic use

- From our research data, we find out that some of your friends are taking antibiotics such as Ciprofloxacin and Hua-Hong tablets which are anti-inflammatory drugs in order to prevent vaginitis. Do you know how thy work?
- Who told you about this kind of measure, or how do you find them?

Responses to SARS

- During the SARS period, somebody would worry about that they would get infected at work. Did you?
- How did you prevent from getting infected of SARS?
- What would you do if you had fever or cold then?
- Some of the informants said that they would try to be selective of their clients, so what were your criteria on the selection?

Strategies of HIV prevention

- From our research, we find out that most of the informants understand what HIV was but some of them still would not use condoms. Do you know what the reasons would be?
- Have you encountered any client who were reluctant to use condom? Under what conditions, you will reject the sex transaction?
- What would you do if you discover that you have been infected with HIV? Would you continue with this job?

Leisure activities

- Do you have any friends who are in debt owing to playing mahjong or card game?
- Apart from having the above leisure activities, do you have any others? Which activity do you like most?

Support from others
- Will there be anybody who would help you when you encounter any difficulties at work? Are there be anybody who will listen to you?
- Do you think that support from others is important to you?

Stress
- Where does the stress come from?
- What would you do if you had trouble or when you felt upset?

Appendix 4

香港中文大学/青鸟妇女生活品质调查

亲爱的朋友:

谢谢你们抽空参加这个问卷调查。

本研究主要是探讨妇女们的生活习惯和健康情况的关系,因此你们所提供的资料是十分宝贵的。我们将会从饮食、运动、卫生环境和休闲活动这几方面来了解你们的生活模式,以及情绪变化。并希望透过这次的调查更加清楚你们在生活上的需要和面对的困难,从而设计适当的服务以改善你们的生活质素。

这次的问卷调查需时大约三十分钟。你们所提供的资料只作研究用途,身份姓名絶不公开,问卷并会于研究完成后三年内销毁。你们有权决定是否参加,亦可随时终止问卷调查，你的决定不会影响你在青鸟所得到的服务。

我们在此感谢你们对本研究的支持。

香港中文大学社区及家庭医学系
黄志威教授敬上
二零零三年九月十五日

意向书

我明白调查的资料只作研究用途,我 同意 / 不同意* 参加这次的问卷调查。

签署:_____

名字:_____

日期:_____

*请删去不适用者

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Female Street Sex Workers in Hong Kong: Moving beyond Sexual Health

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ABSTRACT

Background: For many years, the sex industry in Hong Kong has appeared to be an integral and ever-expanding component of the city's sociocultural and economic structure. Accordingly, the physical and psychological health of sex workers is becoming an increasing concern for the workers themselves, the public, and government policy.

Methods: A cross-sectional survey on the quality of life (World Health Organization Quality of Life [WHOQOL]) of female sex workers (FSWs) in Hong Kong was used to investigate the physical and psychological well-being of street FSWs, and the results were compared with those of nonsex-working Hong Kong women after adjusting for age, educational level, marital status, and health status.

Results: The 89 FSWs surveyed scored significantly lower on QOL—WHOQOL-BREF (HK)—measures compared with the nonsex-working women. One common aspect among these sex workers was their negative view of themselves and of life. Many sex workers were at risk of being abused while at work, and many women worked without legal protection. Most of the women surveyed engaged in sex work to support their families. Because their income was often insufficient, some of their needs, especially those concerning health, were often neglected.

Conclusions: The low WHOQOL-BREF (HK) scores in FSWs indicate feelings of helplessness and entrapment, which may well result in detrimental effects on sex workers' health, self-esteem, and confidence when asserting their basic rights, such as access to healthcare and safety. The conclusion highlights the vulnerability of this population to apparent weaknesses in Hong Kong's current healthcare system.

INTRODUCTION

THE COMMERCIAL SEX INDUSTRY is flourishing in modern Asia Pacific cities, such as Hong Kong. A recent report estimated that there were at least 200,000 female sex workers (FSWs) in Hong Kong in 2002[1] and that the total female population involved as sex workers, support workers, or partners of male clients exceeded half a million in a city of 6.8 million people.[2] The sex industry is further fueled by a closer integration with China and the high volume of cross-border travel between the two places in recent years.[3,4] A large number of Hong Kong's FSWs who are

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arrested by the police in violation of immigration law come from China, and this number dramatically increased from 3,055 in 2000 to 10,773 in 2003 (written communication, Department of Police, April 2004).

A recent literature review by Wong and Wun[5] found that during the past 10 years, only 10 papers on Hong Kong's FSWs or their male clients had been published. These papers (Table 1) focused on such common topics as sexually transmitted diseases (STDs), HIV, condom use, or sexual behavior. This is probably because these issues are easier to measure and are more directly linked to services. This may well reflect the popular and widely held belief of FSWs' role in the transmission of STDs/HIV. However, there is also evidence demonstrating that it is the danger posed by intravenous drug use rather than sex work itself that puts FSWs at risk of HIV.[6]

There is controversy about the possible association between psychological distress and sex work. Farley et al.[15] found that two thirds of the FSWs surveyed in five continents met the diagnostic criteria for posttraumatic stress disorder (PTSD) and further concluded that sex work is "an act that is intrinsically traumatizing" and that "the harm of prostitution is not a culturally bound phenomenon."[15] In another study, 42% of street FSWs in Washington, D.C., were found to have PTSD.[16] However, an Australian survey found no statistical difference in mental health between FSWs and a community sample of age-matched women.[17] Another possible explanation is that specific victimizing experiences and negative circumstances related to sex work might account for the psychological distress of the victims.[6]

The sex industry is a highly stratified, highly mobile, often illegal, and fluid entity, with street workers being at the bottom of the status hierarchy.[18–21] Street FSWs face different kinds of work experiences and exposure, personal circumstances, and varying degrees of exploitation by pimps or landlords compared with their counterparts in brothels and massage parlors.[22,23] The street sex workers tend to be older and have less negotiating power, and their clientele are usually from the poorer, less educated, and older end of the market. Although they represent a minority of FSWs in Hong Kong, their need for personal security with respect to their physical and psychological well-being must be considered. Heightened vulnerability to physical and psychological insecurity is in part informed by the negative reactions from the public and the media. For instance, residents from one predominantly lower socioeconomic class public housing were reported to have engaged in a public demonstration against the presence of FSWs in their district.[24]

In Hong Kong, the health-related concerns of FSWs, in particular their quality of life (QOL) with associated indexes of safety and psychology, have been largely disregarded. Although the term QOL is abstract and complex representing individual responses to physical, mental, and social factors, the approach is taken that even though FSWs may have specific health risks and needs compared with general populations of wo-

TABLE 1. TEN PUBLISHED STUDIES ON COMMERCIAL SEX IN HONG KONG ON MEDLINE AND EMBASE BETWEEN 1996 AND FEBRUARY 2003

Study	*Population*	*Study measures*
Wong et al., 1994[7]	FSWs and male clients attending the Social Hygiene Clinic	Condom use
Abdullah et al., 2000[8]	Male clients	Epidemiology of HIV infection
Lau and Siah, 2001[9]	Male clients	Sexual behaviors
Lau and Thomas, 2001[4]	Male clients	Commercial sex activities
Lau and Wong, 2001[10]	Male clients	HIV prevalence
Lee and Shi, 2001[11]	Filipino FSWs	Likelihood approach on latent quantities in AIDS prevention
Chan et al., 2002[1]	FSWs attending the Social Hygiene Class	Condom use and point prevalence of STDs
Lau and Wong, 2002[13]	Male sex workers, men who have sex with men and male clients	
Lau et al., 2002[13]	Male clients	Condom use and STD incidence
Lau et al., 2003[14]	Male clients	Condom use in China, Hong Kong, and elsewhere

men, they should have the same entitlement to QOL.

Thus, the main objectives of this study were to assess the QOL of street FSWs in Hong Kong and the effects of their activity on their physical and psychological well-being. The QOL scores from the women surveyed were benchmarked to those of the Hong Kong general female population. The null hypothesis for this study stated that there would be no difference in the QOL scores of sex and nonsex workers. It was anticipated that these scores would help measure the impact on health beyond the presence of disease in FSWs and would contribute to providing health resource allocation and interventions in the future.

MATERIALS AND METHODS

Between October 2003 and February 2004, the Chinese University of Hong Kong and Action for Reach Out (AFRO), a local nongovernmental organization (NGO), conducted a survey of street FSWs in Shamshuipo, Yaumatei, Jordon, and Sanpokong districts. AFRO was launched in 1993 and was the first NGO to work for the rights and better health of FSWs in Hong Kong. It has developed an extensive outreach and personal connection network with street FSWs over the years. The organization operates a drop-in center that offers these women counseling; information; referrals for mental, sexual, and emotional health; and assistance in family and legal problems. With the aid of AFRO, street FSWs were recruited by way of convenience sampling (either by direct approach or word of mouth) in which they were invited to personally answer a 30-minute questionnaire administered by a research assistant at the AFRO drop-in center. A small gift estimated to be worth US$3.8 (US$1 = HK$7.8) was given to the participants as a token of appreciation for their participation in the interview. A written consent was obtained from the participants, and the Survey and Behavioral Research Committee of the Chinese University of Hong Kong approved this study.

QOL in the current study is defined as "the individual's perception of her position in life in the context of the culture and the value systems in which she lives and in relation to her goals, expectations, standards, and concerns."[25] The questionnaire consisted of two parts. The first part was the abbreviated version of the World Health Organization QOL (WHOQOL-BREF) measure,[25,26] and the second part comprised six different domains, namely, health behavior and hygiene, diet, weight and exercise, leisure activities, living environment (including personal safety, home environment and health, and social care), and personal information that examined the FSWs' health and lifestyles in more detail. Drug use was not investigated, as it remains uncommon among street FSWs in Hong Kong.[27] The Chinese version of WHOQOL-BREF (HK) has been culturally adjusted and validated in over 1500 Hong Kong Chinese subjects.[28] It was found to correlate well with the full version and other assessment tools, such as SF-36.[29] The WHOQOL-BREF (HK) comprises 28 constructs in four major domains: physical health, psychological health, social relationships, and environment.

A Likert scale of 1–5 was used for rating the items; 1 point was equivalent to least satisfaction, and 5 represented greatest satisfaction. Thus, a higher score reflected better satisfaction or acceptability to the respondent. Using the standard deviation (SD) of 2.45 and an expected minimal difference of 1.2 between the two groups based on the previous validation set,[28] the estimated sample size of 88 persons in each group gave 80% power for alpha equal to 0.05. This sample was then matched and compared with 89 nonsex workers who were randomly drawn from the 693 community-based samples of the original validation dataset of WHOQOL-BREF (HK)[28] after stratification by age group and sex.

The data were analyzed using SPSS (version 11), and various demographic characteristics, lifestyles, and health-related issues were reported using descriptive statistics and frequencies. Chi-square tests were applied to test the differences in characteristics of these two groups of women, and confounding factors, including age, education, marital status, and self-perceived health, were controlled using the general linear model. After adjustment, the items of the WHOQOL-BREF (HK) that were scored by FSWs and nonsex workers were tested using t test with p values and 95% confidence intervals (CI). Bonferroni corrections for multiple comparisons set at $p = 0.002$ (0.05 divided by 25 tests) were applied to minimize the probability of statistical differences found by chance.

RESULTS

A total of 89 FSWs with a mean age of 36.1 years were recruited from the streets. Table 2 shows the characteristics of FSWs and nonsex workers. The majority (84.2%) of FSWs received an education of no more than junior high school (vs. 40.4% among nonsex workers). In addition, the majority (88.8%) of women were from Mainland China; 68 (76.4%) of the women had been in Hong Kong for <1 year, and 35 (39.3%) had been there for <3 months.

After adjustments for education level, marital status, self-perceived health status, and age, the sex workers' average scores were 12.56, 12.18, 1.96, and 12.10 in physical health, psychological health, social relationships, and environment domains, respectively (Table 3). When compared with the nonsex workers, the FSWs scored statistically and significantly lower in all domains ($p < 0.002$) except in social relationships ($p = 0.83$). They reported an overall low satisfaction with QOL (2.69 compared with 3.55 in nonsex workers; $p < 0.002$) but a similar satisfaction with their overall health status (3.63 vs. 3.47 in nonsex workers; $p = 0.32$). However, detailed questioning about physical health revealed that FSWs reported significantly more pain and discomfort (1.90 vs. 3.42; $p < 0.002$), less energy, and more fatigue (1.56 vs. 4.86; $p < 0.002$) (Table 3). A total

TABLE 2. DEMOGRAPHIC CHARACTERISTICS OF STREET FSWS AND NONSEX WORKERS

Demographic characteristic	*Sex workers (n = 89)*	*Nonsex workers (n = 89)*	*Chi-square test*
Age, years			
Mean	36.07	32.19	
SD	8.30	10.69	0.007*
Range	23–58	20–57	
Place of residence, %			
Hong Kong (including 2 originally from Thailand)	11.2	100.0	
Hubei (China)	33.7	0	
Guangdong (China)	25.8	0	<0.0005*
Human (China)	14.6	0	
Others (China)	14.7	0	
Length of time living in Hong Kong			
<3 months	39.3	N/A[a]	
3 months–1 year	37.1	N/A	
2–10 years	3.4	N/A	N/A
11–20 years	4.4	N/A	
21–30 years	5.6	N/A	
>30 years	10.2	N/A	
Marital status			
Single	10.1	55.1	
Married and living with husband	49.4	42.7	
Married but not living with husband	14.6	1.1	<0.0005*
Cohabiting	1.1	0	
Divorced	23.6	1.1	
Widow	1.1	0	
Number of dependent			
0	18.0	N/A	
1	47.2	N/A	
2	30.3	N/A	N/A
3	3.4	N/A	
4	1.1	N/A	
Educational level			
No formal education or kindergarten	5.6	1.1	
Primary school	29.2	19.1	<0.0005*
Junior high school	49.4	20.2	
Senior high school or more	15.7	59.6	

*Statistically significant.
[a]N/A, not available.

TABLE 3. COMPARISON OF WHOQOL-BREF (HK) SCORES BETWEEN STREET FSWS AND NONSEX WORKERS

	Sex workers (n = 89)		*Nonsex workers (n = 89)*		*Test for equal mean upper boundary*	*95% C.I. for difference*	
	Adjusted mean (S)	*SE*	*Adjusted mean (H)*	*Lower boundary*		*Lower boundary*	*Upper boundary*
Q1 Quality of life	2.69	−1.21	−0.52	0.11	0.0005	−1.21*	−0.52
Q2 Overall health	3.36	−0.16	0.48	0.10	0.322	−0.16	0.48
Domain I: Physical health	12.56	0.25	15.44	−3.67	−2.09	−3.67*	−2.09
Q3 Pain and discomfort	1.90	−1.95	−1.09	0.14	<0.0005	−1.95*	−1.09
Q4 Dependence on medicine	1.56	−3.61	−2.98	0.10	<0.0005	−3.61*	−2.98
Q10 Energy and fatigue	3.58	−0.48	0.50	0.16	0.969	−0.48	0.50
Q15 Mobility	4.29	−0.57	0.16	0.12	0.277	−0.57	0.16
Q16 Sleep and rest	3.64	−0.12	0.62	0.12	0.183	−0.12	0.62
Q17 Activities of daily living	3.48	−0.43	0.25	0.11	0.599	−0.43	0.25
Q18 Working capacity	3.54	−0.55	0.17	0.12	0.295	−0.55	0.17
Domain II: Psychological	12.18	0.28	14.32	−3.04	−1.24	−3.04*	−1.24
Q5 Positive feelings	2.01	−1.77	−0.92	0.14	<0.0005	−1.77*	−0.92
Q6 Religion/spirituality/personal beliefs	2.32	−1.90	−1.01	0.15	<0.0005	−1.90	−1.01
Q7 Thinking, learning, memory, and concentration	3.60	−0.31	0.64	0.16	0.497	−0.31	0.64
Q11 Bodily image and appearance	3.70	−0.61	0.29	0.15	0.484	−0.61	0.29
Q19 Self-esteem	3.39	−0.54	0.16	0.11	0.290	−0.54	0.16
Q26 Negative feelings	2.75	−0.97	−0.21	0.13	0.003	−0.97	−0.21
Q27 Eating	3.11	−0.67	0.08	0.12	0.121	−0.67	0.08
Q28 Being respected and accepted	3.49	−0.81	0.10	0.15	0.122	−0.81	0.10
Domain III: Social relationship (culturally adjusted)	13.96	0.31	13.85	−0.89	1.11	−0.89	1.11
Q20 Personal relationships	3.74	−0.11	0.55	0.11	0.192	−0.11	0.55
Q21 Sexual activity	2.94	−0.67	0.01	0.11	0.046	−0.67	−0.01
Q22 Social support	3.79	−0.11	0.51	0.10	0.214	−0.11	0.51
Domain IV: Environment	12.10	0.29	13.24	−2.09	−0.20	−2.09	−0.20
Q8 Physical safety and security	2.35	−1.72	−0.73	0.16	<0.0005	−1.72*	−0.73
Q9 Physical environment	3.21	0.06	0.94	0.14	0.026	0.06	0.94
Q12 Financial resources	1.86	−1.92	−0.96	0.16	<0.0005	−1.92*	−0.96
Q13 Opportunities for acquiring skills	3.32	−0.77	0.29	0.17	0.375	−0.77	0.29
Q14 Opportunities for leisure activity	2.28	−1.62	−0.58	0.17	<0.0005	−1.62*	−0.58
Q23 Home environment	3.32	−0.49	0.22	0.12	0.450	−0.49	0.22
Q24 Access to health and social care	3.86	0.45	1.03	0.09	<0.0005	0.45*	1.03
Q25 Transport	4.01	0.34	0.91	0.09	<0.0005	0.34*	0.91

[a]Adjusted for educational level, marital status, self-perceived health status, and age.
*After Bonferroni adjustment, $\alpha = 0.002$.

of 21.3% of street FSWs reported having been ill for the last 3 months, and more than half (52.7%) had been ill more than once in the previous 3 months, although less than half (47.4%) had seen a doctor (Table 4). Among the FSWs, 14 (15.7%) said they were taking regular medication; 71.4% of them were taking over-the-counter OTC drugs, and 4 took ciprofloxacin.

With respect to psychological health (Table 3), the sex workers reported less enjoyment of life (2.08 vs. 3.36 in nonsex workers; $p < 0.002$), with some even finding their lives meaningless (2.32 vs. 3.78 in nonsex workers; $p < 0.002$). A total of 80 respondents (89.9%) admitted feeling stressed, the causes of which were financial situation (43.1%), family/social relationships (23.2%), occupation (13.9%), and other health-related issues (11.9%) (Table 4).

Only three questions were asked in the domain of social relationships, and no statistically significant differences were found between the two groups in this domain (Table 3). Most of the FSWs (67.4%) worked alone (Table 4). With respect to social support and needs, a third of them (34.8%) said they did not have any social support, and for those who did, the majority (78.0%) claimed the support came from friends. Family and partners only accounted for 10.2% and 6.8%, respectively.

TABLE 4. PHYSICAL HEALTH, PSYCHOLOGICAL HEALTH, AND SOCIAL RELATIONSHIP AMONG STREET FSWS IN HONG KONG

Domain	*Questions*	n	%
Physical health	Have you been ill in the last 3 months?	89	
	Yes	19	21.3
	No	70	78.7
	How many times have you been ill in the last 3 months?	19	
	Once	9	47.3
	Twice	4	21.1
	Thrice	2	10.5
	More than thrice	4	21.1
	Did you see a doctor?	19	
	Yes	9	47.4
	No	10	52.6
	Taking regular medication	14	
	Yes Prescribed by doctor	4	28.6
	Purchase over-the-counter	10	71.4
	What kinds of drugs?	14	
	Prophylactic ciprofloxacin	7	50.0
	Weight losing pills	2	14.2
	Oral contraceptive	2	14.2
	Iron sulfate	1	7.2
	Analgesic	1	7.2
	Uncertain	1	7.2
Psychological health	Where does the stress come from?	89	
	Reported stress	80	89.9
	Not aware of any stress	9	10.1
	Sources of stress (more than one option allowed)	151	
	Financial	65	43.1
	Social and family relationship	35	23.2
	Occupation	21	13.9
	Health	18	11.9
	Housework	12	7.9
Social relationship	Do you work alone or in partnership?	89	
	Work alone	60	67.4
	Partnership	29	32.6
	Do you have any social support?	89	
	Yes	56	62.9
	No	33	34.8
	Sources of social support	59	
	Friends	46	78.0
	Family members	6	10.2
	Partners	4	6.8
	Social workers	3	5.0

As for environmental issues, many FSWs reported feelings of being trapped and feeling insecure (Table 3). They reported insufficient financial resources to meet basic needs (1.86 vs. 3.30 in nonsex workers; $p < 0.002$) and a lack of opportunity to participate in leisure activities (2.28 vs. 3.38 in nonsex workers; $p < 0.002$). Over half of the women reported earning <US$641 per month, and about a third claimed earning between US$641 and US$1282 per month (Table 5). A total of 65.2% of the sex workers spent <50% of their income on themselves, and 50.6% spent <US$5.1 on food per day. A total of 73 sex workers (82.0%) claimed they had at least one dependent (under the age of 18 years old) to care for (Table 2). Almost half of the FSWs (47.2%) worked 7 days a week, with some (13.5%) working for more than 10 hours per day (Table 5). They also felt physically unsafe (2.35 vs. 3.58 in nonsex workers; $p < 0.002$), and reported cases of rape (3.4%), beating (7.9%), verbal abuse (11.2%), robbery (15.7%), and refusal of payment (20.2%) by clients.

TABLE 5. ENVIRONMENTAL ISSUES EXPERIENCED BY STREET FSWS IN HONG KONG

Domain	*Questions*	n	%
Environmental issues	Do you work and live in the same place?	89	
	Yes	69	77.5
	No	20	22.5
	Income[a]	89	
	<US$641	53	59.6
	US$641–$1282	31	34.8
	US$1282–$1923	4	4.5
	>US$2564	1	1.1
	Percentage of income spent on self per month	89	
	<30	28	31.5
	30–49	30	33.7
	50–79	15	16.9
	80–100	16	17.9
	Money spent on food per day	89	
	<US$5.1	45	50.6
	US$$5.1–$10.1	31	34.8
	US$10.2–$15.3	12	13.5
	>US$15.3	1	1.1
	Working days per week	89	
	<3	13	14.6
	4	5	5.6
	5	18	20.2
	6	10	11.2
	7	42	47.3
	Flexible	1	1.1
	Working hours per days	89	
	<3	4	4.5
	3–6	37	41.6
	7–10	35	39.3
	>10	12	13.5
	Flexible	1	1.1
	Unfavorable experiences during work	89	
	Beaten by client	7	7.9
	Not paid by client	18	20.2
	Raped by client	3	3.4
	Robbed by client	14	15.7
	Verbally abused by client	10	11.2

DISCUSSION

Generally, the sex workers surveyed scored significantly lower in physical, psychological, and environmental health than nonsex workers of the same age group and sex in Hong Kong. In this study, the majority of sampled sex workers worked 7 hours a day (52.8%) or 5 days a week (78.7%), which was consistent with another study from the Netherlands in which an average working day of 9 hours was found in one third of subjects who worked 40 hours a week.[30] Notions that sex work was an easy way of making fast and large sums of money were not supported by the data. In fact, it was even expressed that boredom from the job and its demand for full attention and alertness to protect oneself against possible danger, as well as the lack of control over the pace of work, were causes of stress.[31]

Much research conducted on sex work has pointed to the fact that the working environment and realities of the work are perceived to carry more risks than that of HIV infection, with various forms of violence being a priority area. For instance, Church et al.[32] found that street workers experienced significantly more violence from their clients than those working indoors. Although the score of 3.4% for rape reported in our survey was low compared with other published reports, it might reflect a rather unique situation of street workers in Hong Kong; most of these women were not employed as sex workers when

they returned home to Mainland China between visits to Hong Kong. In other words, their sex work history was relatively short.

In addition, the findings on rape could cause confusion depending on the interpretation of rape within the sex industry. To illustrate this, 20.2% of the workers stated that instances of unpaid service were equivalent to rape. Furthermore, people working in the streets are at a higher risk of legal intervention and police arrest.[33] Sex work is not illegal in Hong Kong, but virtually every activity connected with it is. These include, for example, soliciting, advertising, and using premises for commercial sex. Because of the illegal working status of these Mainland Chinese FSWs, there was neither protection for them from the police nor the ability to report crimes occurring within the workplace or in the streets without the risk of criminal charges or deportation. Thus, it is quite likely that the poor psychological score of FSWs may be attributed to their illegal status and visible discrimination as well as possible innate psychological conditions.

As the number of FSWs continues to increase, health professionals are challenged to be more responsive to the health and welfare of FSWs. The number of symptoms reported reflects the poor psychological state of FSWs, which arise from their negative feelings toward themselves and poor living and working environments. Health professionals may not be able to alleviate the underlying causes of stress, but it is important to understand the cultural and social context of street FSWs' lives in order to be able to respond to their needs for medical attention.

Prevention and treatment of STDs/HIV should not be the sole orientation of health services for FSWs. Instead, a cooperative and holistic approach needs to be fostered. At the same time, further psychosocial education is required to help Hong Kong health professionals overcome many of the cultural barriers in discussing such sensitive issues as sex, STDs, condom use and such psychological concerns as stigmatization and powerlessness. Harmful practices, such as the prophylactic use of antibiotics, have been shown to be common among sex workers,[34] and their implications are discussed in another report.[35] It is also paramount to provide a clear educational message to the general public regarding the health risks and costs of commercial sex and the importance of self-protection. Public campaigns for destigmatization and decriminalization need to be conducted as part of a multistrategic approach in addressing this issue.

As shown in this study, over half of the women studied earned <US$641 per month (which is roughly one third of the per capita Hong Kong monthly income).[36] This salary is well above what these women could earn in China,[37] given their educational background and social status. As mentioned earlier, most of their income is spent to support their dependents, with relatively little being left for themselves. Fundamentally, it is the disparities in poverty and wealth levels between China and Hong Kong that encourage these women to risk their health and safety to work on the streets of Hong Kong. This has been the case since June 2003, when China permitted independent travelers, a move that was welcomed by many because it is seen to be beneficial to the local economy.

The success of the recent cleanup efforts by the Hong Kong government will be unlikely to reduce the cross-border sex trade, let alone eradicate it. Since April 2003, non-Hong Kong residents have been subject to a fee seven times higher than what locals are paying when receiving medical services in Hong Kong. Obviously, this has deterred many Mainland Chinese FSWs from seeking medical services and treatment even when needed. It is, therefore, important to re-open the debate as to whether these FSWs should be provided with health services based on humanitarian and public health grounds or society should limit their access to health services based on equity in health resource distribution. Such a debate would contribute to the creation of a coherent policy across different government departments. There is a need to address the basic rights of these vulnerable women to gain access to healthcare and safety without advocating prostitution.

It is important to note that this study, although presenting new perspectives and data on street FSWs, has a number of limitations. First, the sample size of 89 women represents only a small portion of street FSWs in Hong Kong; this means that the study has power only to detect large differences in QOL. Second, the fluid and often illegal nature of the population meant that random sampling could not be conducted. Furthermore, the study was specifically designed to investigate a particular sector of sex workers who had a higher level of exposure to violence and discrimination and who were more disadvantaged in terms of

negotiation power. Third, the authors recognize that there was a gap between the times of data collection for the sample and the comparison group and that the differences in their characteristics pose difficulties for drawing meaningful comparisons. Nevertheless, our results do suggest the magnitude and impact of the problems faced by FSWs. Finally, the study's reliance on self-reporting raises questions of potential memory bias and issues of truth telling.

As this paper is the first comprehensive study dealing with the QOL of Chinese FSWs, it begs more questions than it provides answers. For example, we do not know the cognitive process involved when choosing self-medication or seeking medical assistance. Further qualitative studies on the meaning and context of QOL and the reasoning and thinking processes of street FSWs should, therefore, be conducted. Likewise, similar studies should be conducted including other groups of sex workers, for example, massage parlor and nightclub workers. Information generated from studies that seek to investigate these other subpopulations of sex workers and contextual dimensions of QOL would be invaluable in assisting policymakers and NGOs to promote health protection, mental well-being, and safety, which, in turn, help to reduce public stigma.

CONCLUSIONS

The results of this study indicate that most street FSWs crossed the Chinese border to work in Hong Kong for economic gains. The results confirmed our notion that street FSWs tended to be relatively old and poorly educated. Overall, the women surveyed scored significantly lower in physical, psychological, and environmental health when compared with nonsex workers of the same age group and sex in Hong Kong.

Future research to determine the predictors of QOL among other groups of Chinese FSWs, particularly illegal immigrants, is suggested to assist in formulating an effective client-centered approach to their health concerns. In addition, further studies are needed to investigate local folk beliefs and self-protective practices, which could contribute to a broader picture of culturally specific health outcomes for the Chinese FSW population.

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Patterns of health care utilization and health behaviors among street sex workers in Hong Kong

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Abstract

Objective: To describe the current use of health services by the street-based female sex workers (FSWs) and to explore beliefs behind these health behaviors.
Study setting: Community outreach approach in a few red-light districts in Hong Kong.
Study design: A 30 min face-to-face interview was carried out in 89 women by direct approach and snowballing, followed by a focus group discussion drawn from the participants of the questionnaire.
Results: While these FSWs' perception of personal health was good, a considerable proportion suffered from illnesses but the consultation rate was a third of the mean rate of the general population in Hong Kong. Many street workers experienced difficulty in utilizing health service in Hong Kong and even when they did, it was mainly for acute problems. Affordable access to health public services was excluded and many found private services unaffordable due to the high price charged by the practitioners. It was common for these women to self-medicate, delay in seeking medical help, or travel back to China for treatment.
Conclusion: The current empirical understanding of the health and health service utilization by sex workers is unbalanced. In order to reduce sexually transmitted infections (STIs) and HIV among the street sex workers, it is essential to address the fundamental issue of health care access.

Keywords: Female sex workers; Hong Kong; Health behavior

1. Introduction

The sex trade is an open secret in Hong Kong and an inseparable part of the social and economic life of the city. It has been estimated that Hong Kong has 200,000 female sex workers in a population of 6.8 million people [1]. FSWs have always been considered as reservoirs, if not 'vectors', for the transmission of STIs

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by the medical establishments. The literature review shows that our understanding of the health of sex workers in Hong Kong is very unbalanced and the emphasis is often placed on sexual health [2]. Several studies have been published concerning infection rates and STI prevention efforts among local sex workers [1,3–5]. However, what is still being ignored by many health professionals and researchers is the complexity presenting of health problems beyond STIs. For example, little is known about the frequency and pattern of use of health services by FSWs. Many women especially those working on the street have to deal with a myriad of socio-economic problems, among which are poverty, drug use, social marginalisation and organized crime [6]. They are heavily stigmatized and ostracized while often being forced to work underground and away from their local communities.

With the closer integration and high volume of cross-border travel between China and Hong Kong in the recent years, Hong Kong's street FSWs are increasingly drawn from Mainland Chinese women with little education and little negotiating power compared to the general public and indeed other Hong Kong FSWs [7]. Due to the fear of being denied re-entry to the city, these women usually work and live in Hong Kong for a few months before joining their families in China. At the same time, with their illegal working status, Mainland Chinese FSWs are unable to get protection from the Hong Kong police or to report crimes without risking criminal charges or deportation [8]. Therefore, many FSWs live in sub-optimal conditions and risk being abused while at work. Their disadvantaged position is further exacerbated by the recent economic downturn as well as the introduction of a fee imposed since April 2003 of HK$ 1400 (US$ 1 = HK$ 7.8) for all non Hong Kong residents (compared to free access for the residents) when utilizing venereal disease medical services. This fee publicly reinforces the social rejection and isolation resulting in serious implications for access to and availability of the health services for Mainland Chinese FSWs which, in turn, lead to a greater exposure to sexual health risks by the general public.

2. Conceptual models behind this study

The health of a population is largely dependent on access, affordability and acceptability of the formal health care services and hence the analysis of health care utilizations has increasingly been a major focus for policymakers and service providers. Several conceptual models of health care utilization have been proposed, of which the behavioral model [9], the health belief model [10,11] and the theory of planned behavior [12] have been validated and applied.

In the behavioral model, use of health care is based on three main components: predisposing factors, such as age, sex, education and employment; enabling factors which include income, insurance, home environment; and need factors which comprise of the perceived health status, type of illnesses and time off sick [13]. The health belief model postulates that an individual decides upon an action, such as screening for cervical cancer or use of condoms when threatened by the perceived susceptibility and severity of the disease, and this, in turn, is balanced by the efficacy of the action. The theory of planned behavior has extended this model by incorporating another variable, that is, people's behavior is a consequence of their perceived control. Control in the context of health can be understood in terms of internal locus of control (the extent to which an individual believes that he/she is responsible for his/her own health) and external locus of control (the person concerned believes one's action is influenced by outside forces such as chance, luck or expectations from others).

From an analytical viewpoint, the three conceptual models are not mutually exclusive from each other and therefore a mapping from a conceptual framework to an analytical model is needed. Based on the determining factors described above, Pokhrel and Sauerborn [14] devised a four-step conceptual decision-making model and the steps are: perception of illness, care-seeking behavior, choosing providers and health expenditure. Kroeger [13] further categorized the mental process of health utilizations into two models: the pathways model and the determinant model. The former, usually studied by qualitative methods, describes the process of illness behavior and steps taken in decision making whereas the latter is mainly of quantitative nature and focuses on a number of presumed factors that may be associated with the health care choices. Ideally, both qualitative and quantitative approaches should be used together to gain a better understanding of this complex issue as health care decisions should never be viewed as a single choice [15].

The aim of this study is to describe the current use of health services by the street-based FSWs and to explore beliefs behind these health behaviors using the stepwise conceptual constructs (the determinant model) based on the theoretical models described above. A more complete picture will be unfolded with the supplementation of the focus group discussions (the pathway model). Therefore, such data is important to help devise quality health care services that are relevant and sensitive to the needs of this substantial subgroup of society and provide innovative approaches to address the health inequality experienced by this subgroup.

3. Methods

The five culturally modified hierarchical steps have been adopted to formulate the questionnaire to assess the health utilization of the street-based FSWs. An additional construct, 'disease prevention' has been added to Pokhrel and Sauerborn's model as preventive care is recognized as an important aspect of health [16,17]. In this study, the first step was measured using self-reported morbidity in both acute and chronic illnesses while the second step was measured by the proportion of individuals who sought care given the perceived illness. Having opted for seeking help, the next step in the decision process was to 'choose a provider' from various types available and partly depended on the level of income (step 4); for example, public, private, in Hong Kong or China. Finally, the fifth step measured different disease prevention activities.

Between October 2003 and February 2004, the Chinese University of Hong Kong and a local charity, Action for Reach Out (AFRO) conducted a survey on the street sex workers in districts near their places of work. AFRO was started in 1993 and was the first non-governmental organization working for the rights and better health of sex workers in Hong Kong. It has an extensive outreach network and, a strong and long-term personal relationship with many FSWs over the years. An interviewer, who had attended training provided by AFRO and participated in some outreach work prior to the study, invited the street workers to participate in a 30 min face-to-face interview at the drop-in center. A written consent was obtained and confidentiality assured with approval granted from the Ethics Committee of the university concerned. A small gift worth HK$ 30 was given to the women as a token of appreciation for their time.

A questionnaire was used that contained both validated and previously unused questions. This was piloted on women who had previously worked as street-based sex workers. The validated section was the abbreviated version of the World Health Organization Quality of Life (WHOQOL-BREF (HK)) Measure [18] and the second part comprised of six different domains, namely health behavior and hygiene, diet, weight and exercise, leisure activities, environment and personal information, in order to examine health and lifestyles practice in more detail. In general, the women surveyed scored significantly lower in physical, psychological and environmental health in WHOQOL measures when compared to the previous scores attained by healthy subjects of the same age groups and sex in Hong Kong. Details of the results of the WHOQOL measures are reported elsewhere [19].

A focus group was later conduced drawn from the population recruited from the questionnaire. This resulted in six focus group attendees. The questions asked in the focus group were designed to elicit an understanding of the reasoning behind the constructs from the questionnaire. The group was facilitated by a moderator and an observer, and results were transcribed and analyzed by content analysis.

4. Results

A total of 89 FSWs were recruited from the streets for this study with a mean age of 36.1 years and the majority of women having received education to no more than junior high school. Ten women (11.2%) were Hong Kong residents (including two women who had come from Thailand) while the rest were from Mainland China. Therefore, it was not unexpected that 68 women (76.4%) had been in Hong Kong for less than 1 year and 35 (39.3%) for less than 3 months. Over half reported earning less than HK$ 5000 per month and about a third earned between HK$ 5000–10,000 per month. A total of 77.5% of the FSW had one or two children and 62.9% of the women said that they had given 50% or more of their earnings to support their families. The socio-demographic characteristics of our sample are shown in Table 1.

Table 1
Demographic characteristics of female street sex workers ($N = 89$)

Demographic characteristics	
Age (Year)	
Mean	36.07
Range	23–58
Places of origin (%)	
Hong Kong (including 2 originally from Thailand)	11.2
Hubei (China)	33.7
Guangdong (China)	25.8
Hunan (China)	14.6
Others (lived China)	14.7
Time live in Hong Kong	
<3 months	39.3
3 months–1 year	37.1
2–10 years	3.4
11–20 years	4.4
21–30 years	5.6
>30 years	10.2
Marital status	
Single	10.1
Married and live with husband	49.4
Married but do not live with husband	14.6
Co-habited	1.1
Divorced	23.6
Widow	1.1
Number of dependence	
0	18.0
1	47.2
2	30.3
3	3.4
4	1.1
Education level	
No formal education or kindergarten	5.6
Primary school	29.2
Low secondary school	49.4
High secondary school	14.6
Matriculation	1.1
Did you have a job before?	
Unemployed before	31.5
Housewife	15.7
Employed	52.8
Current income	
HK$ <5000	59.6
HK$ 5000–10,000	34.8
HK$ 10,001–15,000	4.5
HK$ >20,000	1.1

Table 2 shows the health perception and types of illnesses as well as the health seeking behaviors as in the first two steps of the constructs. A total of 77 women (86.5%) perceived their health as just as good as or better than other women of the same age. During the previous 3 months, 19 women (21.3%) reported having been ill and about a third of the women reported for three or more episodes of illness. The majority (68.4%) of the illnesses was upper respiratory tract infections and only one (5.2%) was related to reproductive tract infection. Nearly half (42%) took 1–3 days off work as a result of these illnesses. Only one respondent (1.2%) had purchased travel insurance, suggesting that these migrant workers either had no perceived need of medical cover while working away from home or simply could not afford it. Therefore, it is not surprising that half of those reported sick (52.6%) did not seek any medical help and about a third (36.8%) chose to do nothing. When choosing a provider (step 3), about half (55.6%) of the women surveyed went back to China for health care. Relative little of their income was spent on health care and even for regular medication (step 4): for example, for those who decided to see a doctor, 50% of the women spent less than HK$ 100 each time and the majority of the women (64.2%) who had required regular medication spent less than HK$ 100 per month for that purpose, suggesting that these medications were probably purchased in Mainland China without a prescription or proper follow-up.

A total of 14 respondents (15.7%) reported taking regular medication and half (50%) of the women acknowledged taking a relatively new antibiotics called ciprofloxacin, which is recommended in the CDC STI treatment guidelines in the management of chancroid, granuloma inguinale and gonorrhea (Table 2). Women surveyed also took oral contraceptive pills (14.2%), weight reducing drugs (14.2%), iron supplements (7.2%) and analgesics (7.2%). Three women (3.4%) said they had been diagnosed with hypertension before but did not take any medication for this problem. Although not regarding as self-medication, it became apparent from the focus group that vaginal douche was a common practice among these women. A woman who was aware of the complications that vaginal douche could bring about, said that she could not stop herself from practicing it because she would otherwise '*feel dirty and psychologically imbalanced*'. In the same vein, women reported taking antibiotics '*to get rid of the poison*' or '*to make you strong*', despite some women admitting to being '*unsure of their action*'.

Table 2
Health perception, status and service utilization among street sex workers

	n	*N*	%
Step 1: perception of health and illnesses			
Perceived health status (fair, good, excellent) when compared to women of the same age	77	89	86.5
Disagree that to have a higher risk of contracting HIV when compared to women of the same age	67	89	75.3
Was sick in the previous 3 months	19	89	21.3
URTI	13	19	68.4
STD	1	19	5.2
Others (headache, diarrhea)	5	19	26.3
Known hypertension	3	89	3.4
Other chronic illnesses (asthma, dyspepsia, anemia, thrombocytopenia)	4	89	4.5
Step 2: health seeking behaviors			
No medical care sought	10	19	52.6
No treatment received (chose to do nothing)	7	19	36.8
Self-medication	3	19	15.8
Taking regular medication	14	89	15.7
Ciprofloxacin	7	14	50.0
Oral contraceptive pills	2	14	14.2
Weight reducing drugs	2	14	14.2
Iron supplement	1	14	7.2
Analgesia	1	14	7.2
Purchased insurance	1	89	1.1
Step 3: choosing a provider			
Doctor visited in Hong Kong (private)	2	9	22.2
Doctor visited in Hong Kong (public)	2	9	22.2
Doctor visited in Mainland China (private)	5	9	55.6
Step 4: health expenditure			
For each acute illness			
HK$ <100	6	12	50.0
HK$ 101–400	4	12	33.3
HK$ 401–700	1	12	8.3
HK$ 701–2000	1	12	8.3
Was sick once in the previous 3 months	9	19	47.3
Was sick twice in the previous 3 months	4	19	21.1
Was sick twice or more in the last 3 months	6	19	31.6
Off work for 1–3 days due to illnesses	8	19	42.1
Off work for 4–6 days	6	19	31.6
Off work for more than 1 week	5	19	26.3
For regular medication:			
Free of charge	2	14	14.3
HK$ 100/month	9	14	64.2
HK$ 101–600/month	1	14	7.2
HK$ 601–1200/month	2	14	14.3

In respect to step 5 of the constructs, 34 respondents (38.2%) said they had tried to be healthier in the previous 12 months (Table 3). Among them, 61.8% did exercise, 41.2% had a health check by a doctor and, 20.6% tried healthy food or paid more attention on personal hygiene. One woman, however, claimed she had regular prophylactic injection of intravenous antibiotics within this time period. Nevertheless, 11 respondents (32.4%) admitted difficulties in sustaining these health-conscious activities and the main reason cited was lack of spare time (72.7%). Furthermore, 56 women (62.9%) and 64 women (68.5%) said they had never had a PAP smear or breast examination done respectively. For those women who had a PAP smear, only five (15.1%) had undertaken this within the local guidelines for cervical cancer (3-yearly screening

Table 3
Health promotion and disease prevention-related attitudes and behaviors among street sex workers

	n	*N*	%
Step 5: health promoting behaviors			
Tried to be healthier in the previous 12 months	34	89	38.2
Exercise	21	34	61.8
Body check	14	34	41.2
Eating healthy food	7	34	20.6
Being more hygienic	7	34	20.6
Taking vitamins	6	34	17.6
Others (sleep more (4), regular lifestyles (3), eat less fatty food (1), iv antibiotics (1))	9	34	26.4
Encountered difficulties in sustaining these health-conscious activities	11	34	32.4
Encountered difficulties – lack of spare time	8	11	72.7
Step 6: disease prevention			
Never had PAP smear screening	56	89	62.9
Had PAP smear screening—once in a few year	5	33	15.2
Never had breast-checking by health professional	64	89	71.9
Never had STI checking	49	89	55.1
Received clients without condoms	18	89	20.2
Received clients without condoms—due to financial rewards	10	18	55.6
Ever had HIV checked	28	89	31.5

interval). A total of 49 women (55.1%) said they had never been tested for STIs. Even those who had reported that they would not tell the doctor the nature of their employment. Instead, as some women reported, '*I feel itchy down below*' or '*check if my husband has been disloyal*'.

A total of 18 workers (20.2%) reported they had received clients without condoms—the main reason (55.6%) being financial rewards. (Table 3). Since 75.3% of the respondents did not perceive themselves as having a higher risk of contracting HIV when compared to other women of the same age in Hong Kong, it was unsurprising that only 28 women (31.5%) had been previously tested for HIV. From the focus group, one informant explained her perceived low risk, '*everyone has to wear condoms, and if you don't know how, someone (from the trade) will teach you*'. For those who refused condoms, the FSW would assess the hygienic state of the client or take off their clothes to check for any spots. Sometimes, they might negotiate condom use with the client using statements such as '*you are not afraid (of catching HIV), but I am*' or '*it is free for you to see a doctor in Hong Kong,but it is very costly for me in China*' or intimidating measures such as '*if you catch it and give it to your wife, you will be in deep trouble*' or '*I do it (make love) every day while you only do it once*'. They felt that the client would usually give in if you were persistent. Conversely, five respondents were so worried that they reported having had HIV tests every month.

5. Discussion

Using the five-hierarchical steps to map out the decision-making process has been very constructive in two respects. First, the variation between different choices in the management of one's health has been well captured in this model and thus allows identification of an individual step or factor that appears as a barrier to better health access. For example, not all perceived illnesses end up with medical consultations and, when they do, the services can be provided by a range of institutions. This observation clearly has tremendous implications for policy, some of which will be discussed shortly. Secondly, people with different socio-demographic characteristics may explain variations in a particular choice and hence between group comparisons may shed light on the factors that influence the individual behavior.

The analysis of FSWs street workers data based on the five-step construct and focus group discussions have resulted in some interesting research and policy relevant findings. Our sample of this population

subgroup, tended to be relatively young and independent while their perception of personal health was unrealistically high (at 86.5%). Nevertheless, a considerable proportion suffered from illnesses while working in Hong Kong, but the consultation rate (0.16 per month) was a third of the mean monthly consultation rate of 0.48 among the general population in Hong Kong [20]. Our data suggested that many of the FSWs experienced difficulty in utilizing health service in Hong Kong and when they did, it was mainly for acute problems, a pattern seen in the developing world. Access to health public services was excluded and many found private services unaffordable due to the high price charged by the practitioners. Therefore, it was common for these women to self-medicate or delays in seeking medical help. The other alternative was to travel back to China for treatment, resulting in additional sufferings, delay in treatment, travel expenses as well as an indirect loss of income. This finding is in contrasted with a similar study conducted in the United Kingdom on 72 street sex workers in which the general practitioners were identified as a main source of care providers [21].

Due to the fear of contracting STIs and, personal and situational inability to seek medical treatment when needed, some resorted to using ciprofloxacin against presumably as prophylaxis against gonorrhea and relatively uncommon genital ulcers. Such use, however, does not only induce unpleasant and unnecessary side effects (common ones are gastrointestinal disturbances, headache, dizziness and sleep disorders) and increase resistance of the antibiotics in the community, it may offer a sense of false reassurance of protection from STIs. In Hong Kong, ciprofloxacin is not recommended [22] for the treatment of both gonorrhea and non-gonococcal urethritis due to its high resistance locally [23]. Another example is that these FSWs reported high usage of vaginal douching and personal hygiene, suggesting a misplaced form of self-protection against STIs and a possible level of self-disgust.

A survey of 3270 general public respondents in Hong Kong in 1999 showed that 50.6% had done something to improve their health in the past 12 months with the three top ranked activities being: exercise (57.3%), consuming more healthy food (10.4%) and less fatty food (8.2%). [24] Comparatively, the motivation for improving health is lower at 38.2% among our sample but a high emphasis was placed on health checks (Table 2). Nonetheless, our study reveals that about two-third of the women have never had a HIV test or a PAP smear and over half did not have any STI screening respectively. Given the current concerns on the HIV/STI epidemic in the region [25,26], the government cannot afford to turn a blind eye to the health of these women.

Beliefs about how to acquire HIV/STIs and links to promiscuity and discrimination resulted from the fear of spreading the disease is a repeated theme in our study. These beliefs strongly undermine the health-seeking behaviors and the efforts of many STIs/HIV prevention programs. Street FSWs in Hong Kong have to face a high level of stigmatization by the general public who sees them choosing to expose themselves to risks. This, in turn, results in low level of disclosure and inaccurate history when presented to the medical service. Therefore, measures to convince medical professionals to take sex workers' health concerns seriously and treat them with empathy have not been enough. Although one can argue that many sex workers come from overseas and should not be the burden of the Hong Kong taxpayers by providing them free venereal medical services, the very fact that their business targets at local men and ultimately, it is their family and the general public as a whole will suffer, contradicts this argument. Therefore, it might be more realistic to balance these basic rights for these women such as universal access to health care without needing to advocate for such activities. Until then, stigma associated with STIs and sex work can only be confronted using health education and raising professional and public awareness that sexually active people need to will be allowed to access affordable and free health promotion and medical treatment.

This study has a few weaknesses and limitations: firstly, the sample size of 89 women represents only small proportion of sex workers in Hong Kong. However, it reflects a specific group of sex street workers that are highly exposed to violence and discrimination, and disadvantaged in terms of negotiating power and socio-economic means. Secondly, no control group of women was employed in this study as the studied group was a heterogeneous group of women with different ethnicities, places of origin and, home and educational circumstances. Therefore, it would be difficult to draw a meaningful group locally for comparison. Thirdly, as an observational study, the findings rely on

self-reporting measures and thus are open to bias. Those volunteering to be interviewed are likely to represent the women with less chaotic lives and the results may be an underestimate of the morbidity for the whole population. By limiting the constructs to only five steps, it is possible that some real life practices such as 'doctor shopping' or the fear of being in debt to pay for the health service, which may affect the earlier steps, have been overlooked. However, this study lends support to the contention that the health outcomes and health behaviors of these women are complex and there are many factors involved in the structures and processes of society that generate risks, exposure, vulnerability, wealth and power, which, in turn, will affect health care decisions. This is where a number of focus groups could provide contextual data to reflect this nature.

In conclusion, access to health care is a fundamental human right and that right is often deprived because of the legal, financial and social status of the street sex workers. However, the current empirical understanding of the health and health service utilization by sex workers is unbalanced and often heavily weighted towards sexual health. Sex workers are a sub-sector of the population who have common health problems as well as more specific health risks and require greater sensitivity. Therefore, it is just as important to reduce STIs and HIV among the street sex workers as it is to pay attention to other health issues, for example, the lack of access to generalized health care for these migrant sex workers, which is interrelated. It is further recommended that non-governmental organizations play a stronger role advocating for, facilitating or providing health services to these workers in a culturally sensitive way [9] as well as working on breaking down current high levels of professional and public stigmatization.

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