CHAPTER 2

REVIEW OF LITERATURE

Introduction
This chapter of review of literature has explored extensive spectrum of the study topics. The review opens with importance of ‘anthropology’ discipline to understand cultural context of health seeking behavior. Followed by global and national scenario about HIV/AIDS epidemic. Then it takes the pathway of HIV prevalence among female sex workers of different countries, focusing on current national situation. High risk behaviors practiced by them, reasons for it, their vulnerability towards getting infected with HIV/AIDS, different typologies in which sex work is operated, and brief description about the targeted intervention program implemented by the NACP specifically for FSW. All of these sections have been discussed in detail in the chapter. This information helps to set a background for review of other important variables of the study. Condom promotion policies among FSW evidences effectiveness of condoms in preventing transmission of HIV during sexual contacts. FSWs’ awareness about HIV/AIDS, knowledge about correct condom use, knowledge and risk perception about the disease, attitude towards condom use. FSWs’ behavior of condom use with different types of clients is discussed elaborately. Socio cultural determinants of condom use, impact of knowledge and attitude on FSWs’ condom use are also discussed. Barriers in condom use, physical, economical, psychological, organizational are deliberated which enrich global and national evidences. Lastly, review of important output variable of effects of condom non use. This includes; FSW reported symptoms of STI; (lower abdominal pain, ulcers/warts, white discharge), incidence of induced abortions in last one year. The chapter summarizes the current state of research on key variables studied in the research study. It forms base of knowledge from which I have built upon with knowledge that they provide to the area of interest.

2.01 Anthropology a study of humankind
Anthropology- from the Greek, meaning ‘the study of man’ – has is called the ‘the most scientific and the most humane of the sciences. Its aim is holistic study of mankind. It has different branches. Medical anthropology a subfield of anthropology
studies people’s culture and groups in society that explain causes of illness, treatment seeking behavior. People’s beliefs, practices related to biological, psychological and social changes health and disease condition (Helman, 2001). This branch of Medical Anthropology with employment of its traditional immersion methods to study human life up close helps in painting a holistic picture of the human situation with traditionally disciplinary concern with understanding things from insider’s point of view and flow of experience, and applied orientation to human problem can make an important difference in the world (Singer, 2007).

2.02 Cultural context of health seeking behavior

A culture is defined as the entire pattern of belief and behavior that is learned and shared by people as members of a social group. The context of culture impacts many aspects of people’s lives. Beliefs, behaviors, perceptions emotions, language, religion, rituals, attitude towards illness, pain all of which influences health and health care. Culture is one of the factors influencing health related behaviors the other factors include: individual demographics, educational status, socio-economic aspects, and environment factors. Keeping in mind that culture cannot be generalized; as culture is never static, it undergoes ongoing process of adaptation and change (Helman, 2001; Amber, 1999). Culture has to be studied in its particular context. Foster and Anderson’s define medical anthropology bio-cultural discipline concerned with both the socio-cultural aspects of human behavior, and particularly with the ways in which the interacted throughout human history to influence health and disease. Anthropologists understanding the socio-cultural aspect of the spectrum have reflected that in society, beliefs practices pertaining to ill health are main element of the culture. Culture is seen as a complex, integrated system of thought and behavior shared by members of a group – a system whose whole pattern allows us to understand the meanings that people attach to specific facts and observations. Anthropology helps us to understand health and disease in particular community with the background context of culture of that specific community (Helman, 2001).

Anthropologists build up their ideas about shared behavior by looking at similarities of individual thought and behavior within the group, and how these differ from the shared similarities of people in other groups. HIV/AIDS spread is linked to sexual behaviors but this intimate aspect of human life is difficult to study (Helman 2001). In recent years, discipline of anthropology have found answer for the problem and
were successful in contributing in the HIV/AIDS epidemic research that has been discussed in detail in the introduction chapter. Anthropological research has contributed vastly in HIV/AIDS research in Africa. They firmly believed that effects of HIV/AIDS in developing country has to be understood at the background of political, economic, ecological, social, and cultural factors. Awareness about the background in which the health-seeking behavior decision regarding sexual behavior were taken has to be considered for a complete understanding of the behavior (Scott 2010). This study specifically attempted to find out the factors which influence FSW sexual behavior related to condom use at the background of red light’s sex work culture. Before we precede with it, firstly an overview about the HIV/AIDS epidemic globally and nationally.

**2.03 Global scenario of HIV/AIDS epidemics**

Globally, 15 countries account for nearly 75% people living with HIV. The UNAIDS GAP report documents that at the end of 2013, there were 35 million [33.2 million–37.2 million] people living with HIV. The number of new HIV infections, which, although declining, is still very high. With an estimated 0.8% [0.7–0.8%] of adults worldwide is living with HIV, the burden of the epidemic continues to vary considerably between regions and countries. Of the 35 million people living with HIV, 24.7 million are living in sub-Saharan Africa, the region hardest hit by the epidemic; nearly one in every 20 adults is living with the virus in this region. Almost 4.8 million (4.1 -5.5 million) are living with HIV in Asia and the Pacific. Although the regional prevalence of HIV infection is about one seventeenth that in sub Saharan Africa. In the Caribbean 1.1 % (0.9-1.2%) of adults was living with HIV at the end of 2013. Fifteen countries accounted for more than 75% of the 2.1 million new HIV cases. The number of new infections in Eastern Europe and central Asia began increasing in the late 2000s after remaining relatively stable for several years. The trends of rising new infections are cause for concern in the Middle East and North America. Since 2001, new HIV infections in this region have increased by 31% from 19000 (14000-25000) to 25000 (14000-41000). In Western Europe and North America new HIV infections have increased by 6% (UNAIDS, 2014).

Another significant highlight of the HIV epidemic is the rate of new HIV infections among young women and adolescent girls in the age group of 10-24 years old. Worldwide there are almost 380000 (340000-440000) new HIV infections among
young women and adolescent girls in the age group of 10-24 years old. Globally, 15% of all women living with HIV aged 15 years or older are young women in the age group of 15–24 years. Of these, 80% live in sub-Saharan Africa. The rate of new HIV infection among young women in 26 countries is declining. These gains are giving hope, but they are friable and must be sustained (UNAIDS, 2014).

Epidemiology of HIV - A region wise glance across the globe

Sub-Saharan Africa
There are an estimated 24.7 million [23.5–26.1 million] people living with HIV in sub-Saharan Africa, nearly 71% of the global total. Ten countries; Ethiopia, Kenya, Malawi, Mozambique, Nigeria, South Africa, Uganda, The United Republic of Tanzania, Zambia and Zimbabwe account for 81% of all people living with HIV in the region and half of these are in only two countries—Nigeria and South Africa. There are also more women living with HIV in sub-Saharan Africa than HIV positive men; women account for 58% of the total number of people living with HIV. There were 1.5 million [1.3 million–1.6 million] new HIV infections in sub-Saharan Africa in 2013. However, new infections are on the decline. The number of new HIV infections is falling in every country in the region except Angola and Uganda where increases were recorded. Despite gains in preventing new HIV infections, sub-saharan Africa remains the region most severely affected, with nearly 1 in every 25 adults (4.4%) living with HIV. Three countries—Nigeria, South Africa and Uganda—represented almost 48% of the new HIV infections in the region (UNAIDS, 2014).

Caribbean HIV burden
There are an estimated 250 000 [230 000–280 000] adults and children living with HIV in the Caribbean. Five countries account for 96% of all people living with HIV in the region: Cuba, the Dominican Republic, Haiti, Jamaica and Trinidad and Tobago. Haiti alone accounts for 55% of all people living with HIV in the Caribbean. While the Caribbean region is home to only 0.7% of the global total of people living with HIV, infection rates remain high. The overall HIV prevalence in the region is 1.1% [0.9–1.2%], with the highest prevalence of 3.2% [3.1–3.5%] found in the Bahamas (1). There were an estimated 12 000 [9 400–14 000] new HIV infections in the Caribbean in 2013. This represents 0.55% of the global total for new infections (UNAIDS, 2014).
Middle East North Africa
The Middle East and North Africa is the region with the lowest number of people living with HIV. However, the HIV burden is increasing with rising numbers of AIDS-related deaths and new infections in several countries. In 2013, there were an estimated 230000 [160000–330000] adults and children living with HIV in the region. Five countries—Algeria, Islamic Republic of Iran, Morocco, Somalia and the Sudan—account for 88% of these. In 2013, there were an estimated 25000 [14000–41000] new HIV infections in the Middle East and North Africa, comprising 1.2% of the global total. More than half of these occurred in two countries: Islamic Republic of Iran (32%) and the Sudan (21%)(UNAIDS, 2014).

2.04.1.4 Latin America
There were an estimated 1.6 million [1.4 million–2.1 million] people living with HIV in Latin America at the end of 2013. The bulk of the cases, nearly 75%, are spread among four countries: Brazil, Colombia, Mexico and the Bolivarian Republic of Venezuela. The regional HIV prevalence among the general adult population was estimated to be 0.4%. Central American countries, with 7% of Latin America’s population, accounted for 9% of people living with HIV in 2013. In this region, approximately 10 new HIV infections occur every hour. In Latin America, there has been a slow, almost stagnant, decline in new HIV infections, as demonstrated by the 3% decrease in the number of new infections between 2005 and 2013. However, patterns have varied from country to country. Between 2005 and 2013, new infections declined in Mexico by 39%. However, in Brazil, the country with the largest number of people living with HIV in the region, new infections increased by 11% (UNAIDS, 2014).

Western and Central Europe and North America
At the end of 2013, just over 2.3 million [2.0 million–3.0 million] people were estimated to be living with HIV in western and central Europe and North America. The United States of America stands as the country with the highest HIV burden in the region, accounting for 56% of people living with HIV in this part of the world. Four countries in western Europe account for almost a quarter of the regional total number of people living with HIV, with 8% in France, 6% in Spain, 5% in the United Kingdom of Great Britain and Northern Ireland and 5% in Italy. It is estimated that 88000 [44000–160000] new infections occurred in the region by the
end of 2013 (3). France and the United Kingdom account for 8% each, and Canada, Germany, Italy and Spain each account for 4% of all new HIV infections in the region (UNAIDS, 2014).

**Eastern Europe and Central Asia**

At the end of 2013, there were an estimated 1.1 million [0.98 million–1.3 million] people living with HIV in Eastern Europe and central Asia, which accounts for 3% of the global number of people living with HIV. Two countries, the Russian Federation and Ukraine, account for over 85% of the people living with HIV in the region. The number of new HIV infections in Eastern Europe and Central Asia began increasing towards the end of the last decade after having remained relatively stable for several years since 2000. The region now has 3% of the global number of adults living with HIV. The majority of people living with HIV in the region live in the Russian Federation, where eight out of ten new HIV infections in the region occur (UNAIDS, 2014).

**Asia and Pacific**

After sub-Saharan Africa, the region with the largest number of people living with HIV is Asia and the Pacific. At the end of 2013, there were an estimated 4.8 million [4.1 million–5.5 million] people living with HIV across the region. Six countries—China, India, Indonesia, Myanmar, Thailand, and Vietnam account for more than 90% of the people living with HIV in the region. Four other countries—Cambodia, Malaysia, Nepal and Pakistan—account for another 6% of the total number of people living with HIV in Asia and the Pacific. In addition, high rates of HIV prevalence have been observed in some regions of Papua New Guinea. India has the third largest number of people living with HIV in the world—2.1 million [1.7 million–2.7 million] at the end of 2013—and accounts for about 4 out of 10 people living with HIV in the region. Since the present study was carried out in India its details will come in further section of this chapter. New HIV infections in South and South-East Asia declined by 8% and by 16% in the Pacific between 2005 and 2013. However, the breakdown by country shows a mixed picture. New infections in Myanmar declined by 58%, by 46% in Thailand, by 43% in Vietnam and by 31% in Papua New Guinea. The situation in Indonesia is cause for concern, where new HIV infections increased by 48% and the country’s share of new HIV infections in the
region reached 23% in 2013, second only to India. The number of new HIV infections also increased in Pakistan (UNAIDS, 2014).

2.04 HIV situation at national level: HIV and AIDS estimates

India ranks world’s third-largest population suffering from HIV/AIDS (with South Africa and Nigeria having more), the prevalence of the disease is lower in India, than many other countries. Because of huge population the numbers are obviously high. In 2007, India’s AIDS prevalence rate stood at approximately 0.30%—the 89th highest in the world (Mitbawkar, 2010). The spread of HIV in India is primarily restricted to the southern and north-eastern regions of the country.

Table 2.1: HIV epidemic of India

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>i.</td>
<td>Number of people living with HIV</td>
<td>2.1 million (1.7-2.7 million)</td>
</tr>
<tr>
<td>ii.</td>
<td>Adults aged 15 to 49 prevalence rate</td>
<td>0.3% (0.2-0.3%)</td>
</tr>
<tr>
<td>iii.</td>
<td>Adults aged 15 and up living with HIV</td>
<td>1.9 million (1.5 – 2.5 million)</td>
</tr>
<tr>
<td>iv.</td>
<td>Women aged 15 and up living with HIV</td>
<td>0.75 million (0.6 -0.9 million)</td>
</tr>
<tr>
<td>v.</td>
<td>Children aged 0 to 14 living with HIV</td>
<td>(0.14 million) (0.11-0.17 million)</td>
</tr>
<tr>
<td>vi.</td>
<td>Deaths due to AIDS</td>
<td>1.3 million (0.93 million - 1.6million)</td>
</tr>
</tbody>
</table>

(Source: The recent numbers published by HIV Sentinel Surveillance in 2013-2014)

The numbers reflect the current national scenario about HIV prevalence in India. The primary trends of HIV portray a declining epidemic at national level, though regional variations exist. NACO have reported that HIV epidemic is declining, the estimated prevalence among the adult population in 2013 was 0.27% which remained constant from the year 2011, in 2009 it was 0.31% as against 0.32% in 2008, 0.34% in 2007, and 0.41% in 2000 (NACO, 2014; NACO, 2011; NACO; 2010; NACO,2009; Wikipedia). The epidemic disproportionately affects women, who account for almost 40 per cent that is 35.71% of HIV prevalence of the total adult prevalence of 0.3%. Nationally, the prevalence rate for adult females is 0.29
% , while for males it is 0.43 % (NACO, 2009). More men are HIV positive than women. This means that for every 100 people living with HIV/AIDS, 61 are men and 39 are women. According to more recent NACO data, India has demonstrated an overall reduction of 57% in estimated annual new HIV infections (among adult population) during the past decade from 2.74 lakh in 2000 to 1.16 lakh in 2011 (NACO, 2014). The new HIV infections among adults decreased by 28% in erstwhile high prevalence States. At national level HIV prevalence among the young (15-24 years) population also declined from around 0.30% in 2001 to 0.11% in 2011 (Avert). Estimated prevalence among States with high HIV prevalence in 2009 was: Manipur (1.40%), Andhra Pradesh (0.90%), Mizoram (0.81%), Nagaland (0.78%), Karnataka (0.63%), and Maharashtra (0.55%) (Avert, 2009). Declining trends in adult HIV prevalence were sustained in all the erstwhile high prevalence States. However, some States like Assam, Delhi, Chandigarh, Chhattisgarh, Jharkhand, Odisha, Punjab and Uttarakhand showed rising trends in adult HIV prevalence. It must be significantly noted that there is increased trends of new infections in some low prevalence States. This is one of the most important evidences of the impact of the various interventions under NACP and scaled-up prevention strategies (NACO, 2014).

The above two sections of the review gives a plenary representation of HIV/AIDS at global and National level. Globally Sub Saharan African countries are badly hit with the epidemic, followed by mounting trend in some of the Asian countries like Indonesia. Europe and Australia have a low prevalence. But the rise in new HIV infections among Eastern Europe and central Asia is a big concern. Equally it cannot be ignored that “The United States of America” stands as the country with the highest HIV burden in the Western and Central Europe and North America region. After sub Saharan the region with the largest number of people with HIV are found in Asia and Pacific. India has the third largest number of people living with HIV. Though India is witnessing declining trend in the HIV epidemic there are few states with a glitch that have witnessed upsurge of the prevalence in low prevalence states like Assam, Delhi, Chandigarh, Chhattisgarh, Jharkhand, Odisha, Punjab and Uttarakhand. High proportion of PLHIV women in India is also a matter of concern. The HIV epidemic picture at the global and national scenario is promising though there are miles of road ahead before we reach to goal of zero prevalence.
Female sex workers

What is the difference between prostitution and sex work?

Sex workers are women, men and transgendered people who receive money or goods in exchange for sexual services, and who consciously define those activities as income generating even if they do not consider sex work as their occupation (Cheryl Overs, 2002). Another definition is sex workers are defined as female, male and transgender adults aged over 18 years who sell consensual sexual services in return for cash or payment in kind, and who may sell sex formally or informally, regularly or occasionally (UNAIDS, 2011). A more detailed definition of a FSW was proposed at a regional UNAIDS workshop on sex work in West and Central Africa (Abidjan, Cote d'Ivoire, 21–24 March 2000) “sex work is any agreement between two or more persons in which the objective is exclusively limited to the sexual act and ends with that, and which involves preliminary negotiations for a price. Hence there is a distinction from marriage contracts, sexual patronage and agreements concluded between lovers that could include presents in kind or money, but its value has no connection with the price of the sexual act and the agreement does not depend exclusively on sexual services.” (Vandepitte, 2006).

I have operationally defined female sex workers with context to my Ph.D. study in the research methods chapter. But, it is essential to understand the source of etymology of sex work. Lay person often use the term prostitution than sex work. A brief overview is described below to understand the difference between the two terms. Prostitution is the business or practice of engaging in sexual relations in exchange for payment or some other benefit. Prostitution is sometimes described as commercial sex. The term "sex work" was created by long time prostitutes' rights activist “Carol Leigh” as a way to term all those who work as sex workers. Other definition by Priscilla spells sex work as “Provision of sexual services or performances by one person (prostitute or sex worker) for which a second person (client or observer) provides money or other markers of economic value.” (Alexander 1998). Sex work is an umbrella term that encompasses all sexual services/performances that one person exchanges for money, shelter, food, etc. Prostitution is a specific type of sex work. Not all forms of sex work are illegal or criminalized. Most activist sex workers groups rejected the word prostitute and since the late 1970s have used the term sex worker the word became eminent after
publication of the anthology,(Alexander 1998). The term "sex worker" gained acceptance, since spread into wider use, including in academic publications, by NGOs and labor unions, and by governmental and intergovernmental agencies, such as the World Health Organization. The term is listed in the Oxford English Dictionary and Merriam-Webster's Dictionary(Leigh,1984). The upcoming section will give an overview of number of FSW across the globe and HIV prevalence in them.

2.05 HIV prevalence among female sex workers –Globally& Nationally
Global estimated HIV prevalence in female sex workers is 11.8% (UNAIDS,2014). The table below gives information about countries with number of female sex workers and prevalence in them:

**Table 2.2: Countries with number of female sex workers and prevalence of HIV in them**

<table>
<thead>
<tr>
<th>Country</th>
<th>No. of FSW</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>868000</td>
<td>2.8%</td>
</tr>
<tr>
<td>Brazil</td>
<td>546848</td>
<td>4.9%</td>
</tr>
<tr>
<td>Mexico</td>
<td>237798</td>
<td>7%</td>
</tr>
<tr>
<td>Nigeria</td>
<td>236146</td>
<td>24.5%</td>
</tr>
<tr>
<td>Haiti</td>
<td>176400</td>
<td>8.4%</td>
</tr>
<tr>
<td>Thailand</td>
<td>123530</td>
<td>3.2%</td>
</tr>
<tr>
<td>Cameroon</td>
<td>38582</td>
<td>36.8%</td>
</tr>
<tr>
<td>Cambodia</td>
<td>37000</td>
<td>14.7%</td>
</tr>
<tr>
<td>Rwanda</td>
<td>12278</td>
<td>50.8%</td>
</tr>
</tbody>
</table>

(Ref: Global AIDS Response Progress Report)

As mentioned above a Meta –analysis of 434 selected articles between the period of Jan 1, 2007, and June 25, 2011 and surveillance reports representing 99,878 female sex workers in 50 low –income and middle-income countries have documented the overall HIV prevalence of 11.8 % with a pooled HIV prevalence and odds ratios for HIV infection. It also highlighted that in 26 countries with medium and high background HIV prevalence, 30.7% of sex workers were HIV positive and the odds ratio for infection was 11.6 (95% CI 9.1-14.8) (Baral , 2012) . Highest prevalence found in 16 countries in sub- Saharan Africa (Kerrigan et al, 2012). Kenya -45%, Nigeria- 34%, South Africa 60%, Mauritius -33%. In Europe though the overall
HIV prevalence among sex workers is relatively low but there are countries which have reported highest prevalence rates in FSW Latvia (22.2%), Ukraine (9.0%), Portugal (8.9%), Lithuania (6.7%) and Estonia (6.2%) (ECDC, 2012; 3) were in the region, at the same time it is 1% in 22 countries and above 5% in six of countries mentioned above. Contrary in the Middle East, North Africa, and Greater Arabia it was found that 1.7 % of FSW were thought to be living with HIV by contrast (UNAIDS, 2014), one study measuring HIV prevalence and risk factors for FSW in Tripoli, Libya, found a HIV prevalence of 15.7 (Joseph, 2013). HIV prevalence between 5.0-9.9% was found in Algeria, Iran, Morocco, Sudan, Tunisia, Yemen and Somalia and 10% or higher was found in Djibouti and South Sudan. In Afghanistan the prevalence was found to be 0-0.09% (UNAIDS, 2014). In Australia, the prevalence of HIV remains extremely low (<0.1%) among female sex workers. Whereas in Papua Guinea, in 1998, in PNG, a study of 407 FSW in Port Moresby and Lae reported an HIV prevalence of 17% (34 of 205) (Eunice B, 2011). Egypt has a different pattern in terms of the spread of HIV. Surveys of risk groups showed that HIV prevalence was very low among female sex workers (FSW) (Baral, 2012).

An analysis of 16 countries in sub-Saharan Africa in 2012 showed a pooled prevalence of more than 37% among sex workers. Nine reporting countries have a HIV prevalence among sex workers that is higher than the highest national value of HIV prevalence among the general population, (UNAIDS, 2014). Among FSW in SSA, HIV prevalence ranged from 24% in Rwanda (Braunstein, 2011), and 37% in Uganda (Vandepitte, 2011), to over 70% in Malawi, approximately 14 times higher than what is typically found in the general population (National AIDS Commission, 2007; Baral, 2012). In African countries; Benin, Togo, Cameroon, Mali, Niger, the prevalence of HIV among female sex workers were found to be high. In Benin, a behavioral surveillance survey conducted in four Benin cities reported prevalence as high as 60% (overall prevalence 46%), but lower in the capital city of Cotinou (39%). In Togo, much higher prevalence among FSW and their clients were documented in the capital Lome (FSW 45% in 2005; 8.3% among their clients), compared with areas outside of Lome (FSW 17.7%; 3.9% in clients). In a prevalence study in Cameroon, the highest prevalence was seen in FSW (26.4%). In Niger, a small study in 2002 documented 50% seroprevalence among FSW active near a military base in northern Niger, increasing from 28% in 1995.18 In Guinea, one
study documented a decreasing, but still high HIV prevalence among FSW in the capital between 2001 (41%) and 2007 (34%) (UNAIDS, 2014). In Mali, data presented at the 2008 ICASA conference documented increasing HIV prevalence in Malian FSW from 29% in 2000 to 35% in 2006 (USAID, 2011). The review portrays that HIV prevalence was highest among FSW of African countries. At home the HIV prevalence among FSW is represented below.

**Prevalence of HIV among female sex workers of India**

HIV epidemic in India is concentrated in nature with high prevalence among high risk groups. Heterosexual mode of transmission is still the predominant mode of HIV transmission in India. Though HIV trends among high risk groups have mixed patterns, there are pockets of high HIV prevalence among high risk groups in many parts of the country. Pockets with high HIV prevalence among FSW are largely in High Prevalence states. At the state level, 60 percent of the HIV burden is in the six high prevalence states namely; Karnataka, Andhra Pradesh, Maharashtra, Tamil Nadu,

Considerable decline in HIV prevalence has been recorded among FSW at national level 5.06% in 2007, 4.9% in 2009-2010, to 2.67% in 2011 and at State level also (NACO, 2013-2014). Though the overall prevalence in this population have come down there is region wise variation in the rates of prevalence. The very recent IBBA conducted in the year 2009-2010 have reported that in Andhra Pradesh, FSW from Karimnagar district had the lowest HIV prevalence which was 6.5% and the highest prevalence of 23.3% were reported in East Godavari. The prevalence was below 15.0% among FSW in Guntur, Hyderabad, Chittoor, Warangal, and Prakasham, and for the remaining districts HIV prevalence ranged between 18.0% and 23%. Karnataka marked a declining trend in all districts; Bangalore, Bellary, Belgaon, Shomoga, and the prevalence ranged from 8.0% to 27.3%. In Tamil Nadu the prevalence ranged from 2.4% to 8.8%; whereas. HIV prevalence in Dimapur of Nagaland was almost identical in both rounds (R1-11.6%, R2-11.4). In contrast, Maharashtra reflected different picture with varied HIV prevalence among its districts. However, majority of the districts in Maharashtra had prevalence of HIV above 20.0%. Specifically, the prevalence was found to be 34.9% among street based sex FSW, below 30% among brothel based FSW. In Kolhapur district the prevalence was found to be 27.1%. The highlight of the study was when compared
with round one, HIV prevalence in the districts had increased. Prevalence of HIV in Mumbai (BB and SB) and Thane (BB) was above 30%. In the study area of Pune, HIV prevalence was found to be around 20% in the brothel based and non-brothel based FSW. (NACO, 2010).

Followed by the IBBA the HIV Sentinel Surveillance (HSS) survey conducted in 2010-2011, represented state wise prevalence among FSW. Twenty nine states in country had HSS among FSW and HIV prevalence among them ranged from 0% (Sikkim, Jammu & Kashmir and Chandigarh) to more than 6%. Most of the states have recorded less than 5% prevalence among FSW except for Karnataka (5.10%), Andhra Pradesh (6.86%) and Maharashtra (6.89%). Eight states recorded prevalence higher than the national average including two low prevalence states of Goa and Chhattisgarh. Overall, 39 sites have shown more than 5% HIV prevalence among FSW which includes 11 sites each in Andhra Pradesh and Maharashtra, 4 in Tamil Nadu, 10 in Karnataka, and 1 site each in Bihar, Manipur and West Bengal. Among FSW, there is a decline in HIV prevalence at the national level as well as in high prevalence south Indian states, Gujarat, West Bengal and Uttar Pradesh. Nagaland is the only high prevalence state with rising trend among FSW while many of low prevalence states (Assam, Bihar, Himachal Pradesh, Jharkhand, Madhya Pradesh and Pondicherry) have shown rising prevalence. Trends of stable HIV prevalence among FSW was recorded in Manipur, Tamil Nadu, Rajasthan and Kerala (CDC, 2013).

The review demonstrates proportion of FSW with HIV across the globe including India.

2.05.1 Typology of sex work
FSW typology depends on place of sex and primary place of solicitation. typologies seek to provide a comprehensive description of the settings in which women practice sex work FSW can be categorized into five main typologies; street based, brothel based, home based, lodge or hotel based etc. (Buzdogan,2009; NACO,2007). It is evident from studies that the risk of getting infected with HIV varies with typology. Certain typologies such as brothel, lodge and dhaba sex workers tend to have higher client volumes than home based sex workers. So they require special focus even within the category of FSW. New entrants into these categories also warrant special focus (NACO, 2007). Brothels are part of red light area; a red-light district is a part of an urban area where there is a concentration of prostitution and sex-oriented
business such as sex shops, strip clubs, adult theaters, etc. The term originates from the red lights that were used as signs of brothels (Wikipedia 2005). Brothels are establishments specifically dedicated to prostitution often confined to special red light areas in big cities which host thousands of sex workers (Thappa, 2007).

**Sex Work in Brothels**

An ethnographic description of a brothel in an article explains it as an institution, with peculiar configuration of the organization of work both sexual and social sustained by a lifestyle, concepts, rules, principles and consciousness that are exclusive to the sex industry. These structural and cultural aspects of brothel based sex work are shaped by the spatial concentration of brothels in a red light area. Brothels operate at red light area sheltering sex workers and brothel keepers as well as their families. Brothels functions by sex work through many women managed by the brothel owner/manager of a brothel keeper. The FSW caters to collectives of clients. In brothel based settings sex workers work under the brothel keeper. The brothel keeper in exchange for a place to stay takes half the price per encounter. Brothel Keepers charge extra for food, clothing and medical expenses to the sex workers (Kotiswaran 2008). A study in China demonstrated that different structural atmosphere at brothels including organization of life and work, relationships with managers and clients, ability to negotiate condom use, knowledge of sexually transmitted diseases and HIV, and occupational identity, all of which result in different risks of acquiring HIV. Therefore HIV prevention activities have to be focused at the brothel owners and clients as well as FSW (Huang, 2004). Brothel’s structural environment has to be studied prior to planning of prevention activities targeting FSW.
2.05.2 Why targeted intervention for female sex workers

Figure 2.1: Illustration of an HIV Transmission Network

(Ref NACO; Operational guidelines for targeted interventions, 2007)

In India majority of the HIV transmission occurs within groups or networks of individuals who have higher levels of risk due to a higher number of sexual partners especially with FSW. The figure shows that transmission of HIV reaches beyond these High Risk Groups (HRGs) to the general populations through sex workers’ clients/partners. The general populations are lower risk sexual partners. For example clients of sex workers might also have their wives or other partners who is at risk of acquiring HIV from high risk group partners. Individuals who have sexual partners in the highest risk groups and other partners are called a “bridge population”, because they form “Transmission Bridge” from the HRG to the general population. Considering this pattern of epidemic of transmission, with an objective of curtailing the epidemic at HRG level; targeted interventions focusing HRGs were started. To halt the transmission it is important to focus prevention program on FSW. In
summary, the HIV transmission dynamics in India are such that unless effective targeted HIV prevention saturates the most at risk HRGs of FSW, MSM/TGs and IDUs, the epidemic will not be controlled. But the positive implication of this is that if HIV prevention is successful in these HRGs, the epidemic will be substantially curtailed (NACO, 2007).

**Targeted Interventions for FSW**

NACO is a division of the Ministry of Health and Family Welfare that provides leadership to HIV/AIDS control programs in India. In 1986, following the detection of the first AIDS case in the country, the National AIDS committee was constituted in the Ministry of Health and Family Welfare. At the backdrop of the epidemic spread, the condition demanded for a nationwide program and an organization to steer the implementation of program. In 1992 India’s first National AIDS Control Program (1992-1999) was introduced. The NACP started with World Bank but later cached up with many other international donors (Info change India).

National AIDS Control Program (NACP 1) 1992-1999 The objective of the program was to control the spread of HIV infection. There was expansion of infrastructure of blood banks, development of infrastructure for treatment of sexually transmitted diseases in district hospitals and medical colleges. HIV sentinel surveillance system was also initiated NGOs were involved in the prevention interventions with the focus on awareness generation. The program led to capacity development at the state level with the creation of State AIDS Cells in the Directorate of Health Services in states and union territories.

During NACP-II (1999-2006) a number of new initiatives were undertaken and the program expanded in new areas. Targeted Interventions were started through NGOs, with a focus on High Risk Groups (HRGs) viz. commercial sex workers (CSWs), men who have sex with men (MSM), injecting drug users (IDUs), and bridge populations (truckers and migrants). The package of services in these interventions includes Behavior Change Communication, management of STD and condom promotion. National AIDS Prevention and Control Policy, National Blood Policy, a strategy for Greater Involvement of People with HIV/AIDS and National Rural Health Mission.
The objective of NACP-III plans was to prevent new infections by “saturation coverage” of high risk groups with targeted interventions (TIs) and by scaling up existing interventions directed at the general population. It used “behavior change communication” with the further involvement of NGOs and community-based organizations. As per the plan of NACP 111 2000 targeted interventions were started across the country for high risk groups and vulnerable groups. Further, it will extend the existing infrastructure for care, support and treatment (Info change India).

The targeted interventions were implemented by NGOs/ Community based organizations CBOs work with high risk groups (FSW, MSMs, TGs, IDUs).

The TIs provide FSW with the information, means and skills needed to prevent HIV transmission and improve their access to care, support and treatment services. These programs also focus on improving sexual and reproductive health and general health of high-risk population. The primary objective is to stabilize and reverse the spread of the HIV epidemic among HRGs. The program plans to cover at least 80% of the estimated population. The important attributes of targeted intervention projects include. Peer led intervention, focusing high risk behavior and practices and not identities/individual choices. As discussed in the above section that there are 8.68 lakh FSW in the country scattered in different states, out of which 7.18 lakh FSW (82.7%) are being covered under the program (NACO, 2014). Currently there are more than 400 TIs implemented specifically for FSW across the country. One of the core objectives of TIs is promotion of correct condom use among all HRGs.

2.06 What are condoms? History of condoms

A condom (pronounced /ˈkɒndəm/ (US) or /ˈkɒndəm/ (UK)) is a barrier device most commonly used during sexual intercourse to prevent pregnancy and spread of STD including gonorrhea, syphilis and HIV. It is put on a man's erect penis and physically blocks ejaculated semen from entering the body of a sexual partner. A thin rubber sheath worn on a man's penis during sexual intercourse as a contraceptive or as a protection against infection (dictionary.reference.com).

The history of condoms goes back at least several centuries and perhaps beyond. Condoms have been used extensively as a method of birth control for most of history. Over the years condoms have been made from different materials; prior to
the 19th century, chemically treated linen and animal tissue were used (intestine or bladder) followed by gains in the popularity of rubber condoms in the mid-19th century. In the second half of the 20th century, the low cost of condoms contributed to their importance in family planning programs throughout the developing world(Catanas 1995). It is believed that the condom was invented in ancient Egypt where tribesmen wore cylindrical sacks to protect their members from insect bites. In the 15th century Italian anatomist Gabriele Falloppio documented his method of wrapping the glans penis with linen sheaths to prevent syphilis. During the same era goat intestines were used for pregnancy prevention in the region of condom, France. It is been documented that the word condom came from an English court physician named “Doctor-Condom” invented a type of silk-made glans sack for King Charles II of England to answer the king's desire to avoid unprepared pregnancies with his lovers. In 1840 condoms made by rubber came into public eye. At the same time in Japan, a product which was described as “Apparatus to avoid pregnancy appeared in the country. It is believed to be a spin-off of silk-made glans sack. In 1909 "Heart Beauty", Japan's first domestically manufactured condom brand, came to the market. (2) Then came the era of Latex rubber which was invented in 1920 by Youngs Rubber Company was the first to manufacture a latex condom, an improved version of their Trojan brand. Latex was stronger and thinner than rubber condoms, and had a shelf life of five years (compared to three months for rubber). Europe's first latex condom was an export from Youngs Rubber Company in 1929. In 1932 the London Rubber Company, which had previously served as a wholesaler for German-manufactured condoms, became Europe's first manufacturer of latex condoms, the Durex(Wikipedia, 2008).

The dual role of condoms as a contraception and STD prevention has been accepted worldwide however, the journey of condom began as probable solution to avoid venereal disease. The common perception that condom use interferes in sexual satisfaction has not really changed for the last 50 years. The quality of latex condoms was substantially improved since the 1950s.

2.07 Effectiveness of condoms in reducing the transmission of STI/HIV

Condom effectiveness for STD and HIV prevention has been demonstrated by both laboratory and epidemiologic studies. HIV sero-conversion studies suggests that
condoms are 90 to 95% effective when used consistently, i.e. consistent condom users are 10 to 20 times less likely to become infected when exposed to the virus than are inconsistent or non users. Similar results are obtained utilizing model-based estimation techniques, which indicate that condoms decrease the per-contact probability of male-to-female transmission of HIV by about 95%. Though imperfect, condoms provide substantial protection against HIV infection. Condom promotion therefore remains an important international priority in the fight against AIDS (Pinkerton & Abramson 1997). Confirmed by laboratory studies latex condoms provide an effective barrier against smallest STD pathogens. The physical properties of condoms tested in the laboratory are completely impermeable to micro-organisms as small as viruses. The degree of protection they offer against HIV and STI is significantly better than any other single prevention method, taken in isolation, other than sexual abstinence or complete mutual monogamy between two people who have tested negative for HIV. Epidemiologic studies that compare rates of HIV infection between condom users and non users who have HIV-infected sex partners demonstrate that consistent condom use is highly effective in preventing transmission of HIV. Similarly, epidemiologic studies have shown that condom use reduces the risk of many other STD (Centers for Disease Control and Prevention, 2013). Condoms are, however, the only method on that list that has been shown to protect against STI as well as pregnancy.

The US National Institute of Allergy and Infectious Diseases (NIAID) conducted a review of the evidence of condom efficacy showed evidence about condoms efficacy which was confirmed by epidemiological studies conducted in real-life setting, where one partner is infected with HIV and the other partner is not , demonstrated conclusively that the consistent use of latex condoms provides a high degree of protection. HIV is the only STI for which formal meta-analyses of condom efficacy have been published, though only for heterosexual couples, and NIAID evaluated what was then the most recent analysis, by Davis and Weller. They estimated that condoms provided an 85% reduction in HIV/AIDS transmission risk when infection rates were compared in ‘always’ versus ‘never’ condom users (Weller & Davis 2002). Studies highlighted that inconsistent use of condoms is in some cases worse than not using them at all. As soon as attempted condom use falls off from 100% then the degree of protection they offer rapidly declines. Another study
a Cochrane analysis was conducted of 14 studies including 4,709 participants. All participants were part of couples in which one partner was infected with HIV and the other was not. The review compared cohorts of "always" users of condoms to "never" users and estimated that consistent condom use results in an 80% reduction in HIV incidence. The effectiveness of condoms in preventing HIV/AIDS demonstrates significance of correct and consistent condom use to prevent HIV/AIDS (Weller & Davis, 2002).

2.08 Condom Program - Promotion of Condoms under HIV prevention programs

HIV prevention projects/programs are intervention programs that aim to control and halt the transmission of HIV. They are administered as public health policies to protect an individual or community. Primarily HIV prevention methods focused on preventing the sexual transmission of HIV through behavior change. For an extended period of time ABC prevention approach was promoted to control the transmission of HIV. “Abstinence, Be faithful, Use a condom” was advocated rigorously in sub-Saharan Africa. However by the mid-2000s, it became evident that effective HIV prevention needs to be comprehensive and should take into consideration sociocultural, economic, political, legal and other contextual factors (UNAIDS, Making condoms work efficiently). Comprehensive condom programming remains an essential component of combination of prevention programs. The U.S. President Emergency Plan for AIDS Relief, recommends a wide spectrum of multiple, evidence-based approaches to increase availability, accessibility, acceptability and use of condoms in targeted groups and in the general population (PEPFAR, 2012). Scientific literature on condoms, and on HIV prevention in addition experience of various prevention programs reflected that to achieve a holistic prevention potential of condoms four critical elements are essential; Understanding of relationship between condom promotion, including condom social marketing and peer-based condom education, and other prevention strategies, good and correct communication information on the effectiveness of condoms, promoting correct and consistent use of condoms, ensuring sufficient and regular supply of condoms (PEPFAR, 2012).
2.09 Condom promotion in India

Though condom use in the country has been promoted since the 1960s under the National Family Planning Program for prevention of unwanted pregnancies, its promotion received major impetus and significance with the outbreak of HIV. With nearly 86 percent HIV transmission through unsafe sex in the country, NACO advocates and promotes condom use as a safe sex practice for prevention of STI/RTI and HIV, in addition to protection from unwanted pregnancy.

Condom program in India is multi sectorial the partners involved are MoHFW, State Family Welfare Departments, NGOs, Social Marketing Organization, Condom Manufacturers and Private Marketing Companies(Organisation et al. n.d.). Consistent condom are promoted through NACO with an objectives; increase demand for condoms among high risk groups, maximize access to free condoms,

The availability of condoms is addressed through three sub components of Condom Promotion Program: Free Condom, Socially Marketed Condom (Paid-subsidized) and Female Condoms.

1. **Free Condom (Nirodh)**: Free Condoms are procured by Ministry of Health & Family Welfare and distributed by NACO/ SACS to High Risk Group (HRGs) through TI NGOs/ICTC/ART centers for HIV/AIDS Prevention.

2. **Social Marketing Condom**: Socially marketed condoms are distributed by NACO through its Social Marketing Organizations (SMOs) under Targeted Condom Social Marketing Program (CSMP). Commercial Condoms: Condoms under this category are marketed as private brands and distributed by companies under commercial marketing practices. These condoms are not provided any subsidy and hence are sold in fully-priced regime. Social marketing is advocated to increase access in rural and remote areas. HLFPPT

The NACP ensures easy and free access of condoms for all HRGs. The ultimate goal is advocating correct condom use in FSW. Studies have shown that knowledge about condom use is one of the important predictor of condom use among FSW.
Knowledge about HIV prevention methods as an important predictor of condom use

Research Literature has repeatedly recognized knowledge about STI/HIV, susceptibility to STI and HIV infection, and condom use self-efficacy as important predictors of consistent condom use among female sex workers (FSW) (Wang, 2009). Knowledge that HIV could be prevented proved to be important predictor of condom use among FSW from Andhra Pradesh (Dandona, 2005). The traditional focus of HIV prevention was on using cognitive–behavioral individually oriented approaches to bring positive changes in individual’s attitude, knowledge, and behaviors regarding HIV, overlooking an important structural–environmental factor that influences individual behaviors (Morisky, 2006).

Fisher and Bandura developed Information-Motivation Behavioral (IMB) model which theorizes that HIV prevention information, motivation, and behavioral skills are the essential determinants of HIV prevention behavior. The model illustrates that knowledge about HIV prevention and motivation affect risk reduction behavior of change largely through behavioral skills. Knowledge and motivation may also have direct effect on HIV preventive behavior. The theories of the IMB models are generalizable determinants of HIV preventive behaviors in any population. A study on FSW of China proved that there is an indirect effect of information that was significant, mediated through health behaviors, condom use skills and self-efficacy which influenced condom use. Knowledge about HIV prevention is not enough to change behavior (Zang, 2009).

Awareness about HIV/AIDS, knowledge about condom use to prevent STI/HIV will follow risk perception towards getting infected with HIV/AIDS. Vast purview of research is available regarding FSW detailed knowledge about HIV/AIDS including modes of transmission and prevention methods. This specific study predominantly focused on FSW knowledge about condom use to prevent STI/HIV. It studied knowledge about condom use as an important predictor of condom use among FSW which will be discussed in the condom use section. The following section of review would highlight all the aspects of knowledge about condom use mentioned above.

2.09.1 Knowledge about condom use

Awareness about HIV/AIDS among FSW was found to be high in many countries. Studies from Santiago Chile, China, South Africa, Afghanistan, Japan and India
revealed high level of HIV awareness among FSW (Barrientos, 2007; Hemalatha, 2011; Cai, 2010; Sumathi). With exception from FSW of Afghanistan (Kabul) and South Africa, where studies reflected that though general awareness about HIV/AIDS among FSW was high but comprehensive awareness was found to be low. Similarly in Bangladesh FSW knowledge about HIV/AIDS was found to be inadequate. Only 40% FSW knew that unprotected sex is an important cause of transmission of HIV (Bangladesh Uddin, 2014). In Jhapa, Nepal maximum number of FSW had heard about HIV/AIDS (Singh, 2014). In China comprehensive correct rate of HIV/STD knowledge among FSW was 60.8% (Cai, 2010).

In the Islamic Republic of Iran FSW were found to be significantly less knowledgeable about HIV/AIDS than youth and truck drivers (Kazerooni, 2014). In Morocco, high levels of basic and comprehensive knowledge was found among FSW (Mumtaz, 2010). In Egypt all FSW were aware of HIV and some of its transmission modes, but still had misconceptions about its transmission. Ukrainian FSW overestimated their HIV/AIDS knowledge; only 20% of FSW interviewed reflected adequate knowledge on the integrated knowledge indicator (Kyiv, 2013).

In Middle East and North Africa (MENA) levels of knowledge among FSW appear to vary considerably. In Somalia both men and women not engaged in sex work were found to know more than FSW about HIV/AIDS. In Sudan 5.5% of FSW were aware of HIV and its symptoms and 54.9% were aware of some of its transmission (Laith, 2010). In Lebanon almost all FSW were aware about HIV/AIDS, its transmission modes the condoms role in prevention and other prevention measures, however 21.5% of these FSW perceived no chance of becoming infected with HIV possible because of condom use.

The first round of IBBA in India reported that overall 72% are aware about HIV/AIDS. The proportion was more than 90% in states of Andhra Pradesh, Kerala, Delhi, Maharashtra, Manipur and Madhya Pradesh. The awareness was lowest in Punjab (21%), Jammu Kashmir (30%), Orissa (35%) and Uttarkhand (39%). FSW from brothels showed higher level of awareness about HIV/AIDS than street based sex workers. Similarly IBBA round two reported that level of FSW awareness about HIV/AIDS remained high as the first round and was almost universal in all the districts (NACO, 2010).
Source of information about condom use

HIV prevention programs promote condom use as a safe sex method among the population of female sex workers by distributing free condoms, imparting knowledge about its use among them. Particularly in India by the NACP norms TL NGO peer educators are the key source of informers about correct condom use to the population of FSW. Peer education is defined as “sharing HIV/AIDS information in small groups or one-to-one by a peer matched, either demographically or through risk behavior, with the target population.” (UNAIDS, 1999). Apart from peer education, other sources of information about condom use included educational videos, small group discussions, and pictorial education materials. Television was the most cited source of information about HIV, in addition to information through small media and interpersonal channels found to be effective. In Santo Domingo (Dominican Republic), Tijuana (Mexico), and Moscow (Russian Federation) (Westhoff, 1995). Advertisements of condom brands on televisions were another source of information found in Nigeria (Oladaso, 2001). In Kenya, leaflets, posters, and greatest source of information about HIV/AIDS followed by radio and Kenyan television. One more important source which was revealed was sex workers’ friends (IOM, 2010). Kampala slum area Sex workers, who admitted that they heard about condoms through friends, followed by radio, health workers (Sentumbwe, 2001).

Impact of an intervention on HIV, sexually transmitted diseases, and condom use among sex workers in Bombay, India (Bhave, 1995).

Knowledge about HIV/AIDS prevention methods

In IBBA round two among the districts surveyed more than three-fourth of the FSW respondents believed that HIV could be prevented. More than four-fifths of the respondents from Andhra Pradesh, Karnataka, and Tamil Nadu were aware that consistent condom use could reduce the risk of contracting HIV (NACO, 2010). In Maharashtra specifically, this proportion varied, it ranged from 64% to 97% in round two as compared to 28% to 82% in round one. In the BSS survey conducted in the year 2006 at the national level, 90% FSW were aware of consistent and correct use of condom as a mode of prevention from HIV/AIDS. The proportion was less that is 83% in Behavioral Surveillance Survey, 2001. Kenya, Chile, Uganda, Rwanda, levels of awareness about consistent and correct use of condoms prevent HIV was high. (Nyagero, 2010; Barrientos, 2007; Rwanda Ministry of Health, 2010; Onyeneho;
In contrast some countries lacked comprehensive knowledge about condom use that included Ethiopia.

**Misconception about HIV/AIDS**

Universally, before initiation of HIV prevention programs, there were lot of incorrect beliefs and misconceptions about HIV/AIDS among FSW. In Ghana qualitative research in 1997 found that many young women avoided condoms out of an incorrect belief that condoms usually broke and that they caused a variety of health problems (Onyango, 2014). In Gujarat, India, a study in 1997 reported that only 15% of respondents knew that a condom should not be reused, and only 7% knew not to use an oil-based lubricant with a latex condom (Population Reports). Even after so many years of implementation of HIV prevention activities, there is persistence of misconceptions about HIV/AIDS among FSW. The misconceptions fell into wide categories including HIV/AIDS cannot be prevented, HIV cannot be transmitted by oral or anal sex, Some FSW believed that HIV virus could be transmitted through a curse or a mosquito bite, and others incorrectly believed that it was possible to identify persons with the virus, HIV can be spread through shaking of hands and sharing of plates (Hemalatha, 2011; Yang, 2014; Bruce, 2011). One qualitative study reported that washing vagina with potassium permagnent will keep STI away, similar misconception was found among FSW of Bali (USAID, 2006; Ford, 2001). Anthropological research has cited various ethno physiological misconception and beliefs among men and women regarding condom use. Semen is considered as “Dhatu” penultimate vitality form in man’s body and use of condoms is believed to interfere with the natural flow of “Dhatu” (Nag, 1973). In South Asian Countries condom use is considered as heating agent for both the sexes. Misconceptions about anatomy can lead into belief that condom can remain inside women’s body causing harm (Nag, 1973). In Nepal an anthropological study through use of ethnographic tool demonstrated that clients’ external physical appearance can be deceptive belief among FSW for not using condoms with such clients (Shresta, 2004).

**2.09.2 FSW risk perception of getting infected with HIV/AIDS**

FSW risk perception towards getting infected with HIV is dependent on factors such as knowledge about HIV prevention, socio economic elements etc. Anthropologist Collins and Rau dismiss culture and argue that “[p]eople whose livelihood strategies expose them to a high risk of infection are, precisely because they are impoverished,
less likely to take seriously… the threat of an infection that is fatal years from now”. Others voiced out that risk-taking behavior is not solely at individual level: it is because of social and economic factors (Ramin, 2007). 30-50% FSW from Hanoi, Vietnam, Mekong Delta, perceived risk of getting infected with HIV (Tran, 2013). Higher proportion of i.e. 57% FSW from Kampala and Nepal, Nigeria perceived themselves as being at risk of HIV infection that was based on their present sexual behavior of not using condoms; were having multiple partners; their partners were not faithful; while others doubted the efficacy of condoms in protecting against HIV (Sentumbwe 2001; Khaniya 2006; Lawan, 2012). Knowledge about HIV/AIDS influences practice of risky behaviors risk perception is also affected by misconceptions that FSW have, even though they are aware of –being to some extent exposed to these diseases (Coma, 2013). Brothel based female sex workers from Iran perception of risk of HIV transmission was significantly associated with their age, level of education but not with their marital status or duration in sex work (Khajehkazemi, 2014). In one study of Hanoi Vietnam among 400 FSW perceived risk of HIV infection was recognized as a significant predictor of the use of HIV preventive measures Interestingly, the risk perception was significantly associated with their age and duration in sex work business (Tran, 2013).

At National level risk perception of 4% to 77% was found among the FSW across the country. In Karnataka, this proportion ranged from 43% to 56% in round two. In Maharashtra, between 21% and 73% in round one which, varied in round two to 27% to 42%. Comparatively other districts reported high risk perception of more than 50% (NACO, 2010).

2.10 FSW attitude towards condom use

Theory of planned behavior formed the basis for studying FSW attitude towards condom use and its influence on the decision about condom use. The figure explains the relationship of attitude and intention towards behavior.
The theory of planned behavior was projected by Ick Ajzen in 1985. The theory is an extension of the theory of reasoned action, that is grounded in various theories of attitude such as learning theories, expectancy-value theories, consistency theories and attribution theory. A high correlation of attitude and subjective norms to behavioral intention, and subsequently to behavior, has been confirmed in many studies. Ajzen introduced the theory of planned behavior by adding a new component, "perceived behavioral control." In psychology the theory of planned behavior (TPB) is a theory which links beliefs, and behavior. The concept was proposed by Ick Ajzen to improve on the predictive power of the theory of reasoned action by including perceived behavioral control. The theory states that attitude toward behavior, subjective norms, and perceived behavioral control, together shape an individual's behavioral intentions and behaviors. In contrast some studies have documented that, because of circumstantial limitations, behavioral intention does not always lead to actual behavior. Because behavioral intention cannot be the exclusive determinant of behavior where an individual's control over the behavior is incomplete (Ajzen, 1985).

2.10.1 Application of the TPB theories to understand condom use behavior among FSW

The Theory of Planned Behavior (TPB) was tested on understanding and predicting condom use intentions among FSW of California (Wolitski & Corby 2007). The
study tested all the constructs including attitude towards condom use of TPB on FSW. It was found that condom-use attitude were less positive towards main vs paying partners. Attitude toward condom use and perceived behavioral control over using condoms were positively associated with intention to use condoms with both main and paying partners (p's < 0.001). Another study in Jinnah, China a studied Fisher and Bandura’s theory of IMB model, that was tested on 427 FSW to find out the predictors of condom use in them. It was found that condom use was significantly predicted by social referents support, experiences with and attitude toward condoms, self-efficacy, and health behaviors and condom use skills. The results of this study show that FSW who possessed higher levels of social referents support, health behaviors and condom use skills, self-efficacy, and positive experiences with and attitude toward condoms were more likely to use condoms with clients during vaginal intercourse (Yang, 2011). This specific study tested only one construct from the theory, influence of attitude towards condom use on FSW behavior of condom use.

2.10.2 FSW’ attitude towards condom use

A qualitative study among FSW from Uganda found that 91% of FSW had positive attitude towards condom use (Matovu & Ssebadduka 2013). In contrast general population nurse negative attitude towards condom use that ranged from ‘condoms are not African,’ ‘condoms will promote promiscuity and moral lassitude,’ ‘condoms are a ploy to control our population size,’ ‘condoms kill women,’ ‘condoms are evil’ to ‘condoms will hinder the reconstruction of Uganda’” (Ramin, 2007). Similarly, FSW high risk perception towards getting infected with HIV/AIDS from clients led them to insist condom use to clients. They consider the risk as occupational worry. 12% (Buckingham & Meister 2003). The perception of fear of infection had a significant predictive effect on condom use of FSW. The FSW was 11.57 times more likely to request that a patron use a condom when they strongly agreed to a high fear of getting an infection from a patron (CI 95% 4.37 to 30.63).

As mentioned above in the knowledge section FSW from Iran it was found that knowledge towards sexually transmitted infections (STI) and condom use is still inadequate, with negative attitude towards condoms especially in risky behaviors such as anal sex (Kolahi,2011).
Brothel owners/managers and clients are considered as important stakeholders of the red light area. Their attitude towards condom use would definitely have an influence on FSW attitude towards condom use. A couple of studies found that many gatekeepers held negative attitude toward condom use but believed that FSW were responsible for their own decision-making in this regard. Study in other Southeast Asian countries also suggested that some gatekeepers held negative attitude regarding condoms because they considered condom use as a threat to their business. Gatekeepers might also lack a sense of responsibility for FSW because of the division of work. Gatekeepers’ responsibilities were for managing and maintaining their business operations, Gatekeepers might believe that using or not using condoms with clients was the business of FSW. Finally, some gatekeepers themselves might lack knowledge regarding safe sex, which might contribute to negative/neutral attitude toward condom use (Yang, 2007). In India and Thailand when clients attitude towards condom use was assessed, it was found in Thailand that condom use rates depend on the clients economic and epidemiological characteristics as well as their attitude towards condom use (Russo, 2008; Buckingham, 2003) and Indian clients’ attitude towards condoms were assessed at the background context of gender relations between clients and FSW. Clients’ perception of masculine ideal, in giving sexual satisfaction to a woman might influence their attitude towards condom use. Development of attitude towards condom use might be affected by various facets of client- FSW relationship. Not FSW from Rajasthan possess indifferent attitude towards condom use because of commercial sex practiced for generations by their caste women (Sawarankar, 2004).

The rigorous promotion of condom use among FSW as an important strategy of HIV prevention program was evaluated by studying condom use behavior of FSW. The objective was to evaluate impact of the intervention on FSW, to document the positive change in behavior of FSW; the behavior of practice of safe sex. Across countries detail research have been administered to document condom use among FSW. The review below describes the rates of condom use among FSW, the different variables which influences the condom use among them.
2.11 Condom use among FSW

Different types of clients entertained by FSW

It is evident from research studies that FSW entertain different types of clients. Rates of condom use are dependent on types of clients entertained. Broadly there are three types of clients entertained by FSW. Paying clients are those who pay FSW in cash or in kind for sex. The regular clients are those who visits FSW regularly but pays for the sex. The last category is of non-paying regular partners who do not pay FSW for sex, they are husbands, boyfriends and cohabiting male partners. Besides these, some FSW had other types of sex partners who were neither their clients non-regular partners, and they have been included in this survey, ‘other’ sex partners (NACO, 2006, NACO, 2010). Female sex workers do adopt safer sex behavior after educational interventions, and many programs have succeeded in encouraging sex workers to negotiate condom use with clients.

A systematic review of published evidence from 1998 to 2006 on condom use found that fifteen of the 19 studies of condom use in commercial sex reported significantly increased levels of condom use (Foss, 2007). UNAIDS have documented that among sex workers, the median reported rate of condom use with their most recent client in 2008 was 86% in 56 low- and middle-income countries (UNAIDS, 2009). Thailand is the country which has achieved goal of 100% condom use and successful implementation of HIV prevention program, which had an early and rapid rise of the HIV epidemic. In Nevada’s legal brothels high rates of condom use were reported by FSW with all the clients (Albert, 1995). Similarly, FSW from Madagsar, Swaziland, West Europe, Chile reported higher condom use with clients(Pettifor,2010; Barrientos,2007; Baral, 2014; Platt,2013). Condom use rates varied with duration of sexual act, higher in last sexual encounter than consistent. In Nepal and Kampala 60-70% FSW and in Combodia, Indonesia and Malawai around 80% reported of condom use with clients (Sentumbwe, 2001). In Indonesia the mean percentage of condom use with clients by brothel based FSW in the week preceding the interview increased from 62.2% in 1993 to 80.7% in 1998-1999 (P = 0.0001) (Reed,2001). Followed by countries like Abidjan wherein the trend was towards higher condom use among FSW which was confirmed by one more study in Combodia and (Ford,1999;Kinsler,2014).
2.11.1 Reports of low condom use

There are also studies that have documented reported low condom use by FSW. UNAIDS Global Report of 2010 found only a third of the 86 countries surveyed reported, 90% of FSW using condoms with their last client, while more than half reported condom use consistently by 78% of FSW (Reed, 2001). Papua Guinea revealed that most FSW had recently engaged in unsafe sex with clients and regular partners despite adequate knowledge (Bruce, 2011). A study done on FSW of Swaziland to find out proportion of condom use as non-barrier method of contraception and a method to prevent HIV. The percentage of consistent condom users was found to be very low. Only 16% of female sex workers were found to be consistent users of condoms alone; 39% used non-barrier modern methods (without consistent condom use); 8% were dual method users; and 38% were in consistent condom users or used other methods or none. The consistent condom use behavior was dependent on having a regular partner (Yam et al. 2013). In Peru a study among brothel based female sex workers found that 12% of FSW reported unprotected vaginal sex with clients (compared to 75% with non-commercial partners), and 42% reported unprotected anal sex with clients (compared to 87% with non-commercial partners). These findings suggest that FSW constitute an important bridge population for STI/HIV transmission in Peru (Jj, 2015). In Eastern and central European countries condom use with clients was relatively low (Buckingham & Meister 2003). Only 5.8% of sex workers consistently used condoms for a 2-week period of observation, and this figure decreased to 1.4% for a 4-week period (Varga, 1997). In a qualitative study conducted among female sex workers of China condom use was found to be inconsistent and low.

2.11.2 Condom use with regular clients

The universal truth about condom use among FSW is low condom use or no use of condoms with non-paying clients or regular partner Extensive literature is available as evidence to corroborate the truth. As discussed in the earlier section non-paying clients/regular partners will include husbands, boyfriends, male cohabiting partners (Buckingham & Meister 2003). Across all the countries condom use with non-paying partners was less common than with clients (Buckingham, 2003).

In Santiago, Chile regarding partner status, the proportion of rare or irregular condom use with clients was observed in married and cohabiting FSW, followed by
single FSW with partners, compared to other forms of partner status, married or FSW reported little or no condom use (Barrientos, 2007). In Nepal, overall 34 percent of the sex workers had non-paying regular sex partners. A majority of FSW (69.2%) had never used condoms with their non-paying regular partners (USAID, 2011). In Madagsagar less than half of women in this study reported having a main partner. More than 40% of participants reported never using a condom with their main partner, compared to 0.5% who never used male condoms with clients. Condom use at the last sex act with main partners was reported to be lower than with clients. Nevertheless, among these women, more than half reported never or rarely using condoms with their main partner (even though the vast majority (70.8%) reported that their partner had other sex partners). Reasons for non-condom use reported were; desire for greater intimacy with regular partners and as a means to differentiate work life from personal relationships, low perceived risk of disease posed by main partnerships (Pettifor, 2009). In China, Kampala, Vietnam, Cambodia, Ethiopia only 10-30% FSW reported of condom use with non-paying regular partners (Sentumbwe, 2001; Tran, Wong, 2003). In establishment based female sex workers of Ethiopia work related violence was significantly associated with nonuse of condoms with regular partners. Other studies have reported similar levels of condom use in commercial relationships and lower levels of consistent condom use in non-commercial relationships (17–24%).

2.12 Barriers in condom use

Physical barriers

Clients’ reluctance to use condoms

There are many studies which have explored reasons of condom non-use among clients of FSW. The prominent reason or a barrier which has emerged from the literature is “loss of pleasure with condom use”. A qualitative study in Uganda among FSW and truckers has noted a verbatim of trucker “condoms kill the mood for sex” which highlights primary concern of all men for using condoms (Matovu & Ssebadduka 2013). In one study in Nepal almost all FSW reported that clients refuse to use condoms for reason of reduced pleasure. Further FSW added that clients often demands unsafe sex for pleasure, because they have shell out money for the act. Client’s negative attitude of buying pleasure through unsafe sex lowers FSW self-efficacy to negotiate condom use with them (Singh et al. 2005). Pursuing pleasure by
engaging in unsafe sex has a social and cultural dimension of masculine beliefs to enjoy sex, to score on sexual performance which is severely affected by condom use so refusal to wear condoms during sex. In Nigeria, for example, low levels of condom use among sex workers stems from a lack of acceptance by male clients, based on their personal beliefs (Ankomah et al. 2015).

The most prominent barriers to condom use cited by traditional anthropological research are grounded in cultural norms. Setel’s observation is representative: for many men and women, “the very definition of sex was to ejaculate into women or to receive a man’s sperm; using a condom was said to be ‘dirtying oneself’”. Much anthropological research has observed that men in Africa frequently attach great importance to the notion of flesh-to-flesh sex, citing condoms for removing intimacy (Ramin 2007).

**Alcohol use among FSW and clients**

Sex work has social characteristics that contour drinking (Quing, 2009). Sexual encounters under influence of alcohol use by (FSW) or clients are closely associated with risky behavior of unprotected sex than the frequency or quantity (Quing, 2009; Samet, 2010; Luchters, 2014; Alem, 2006). Globally, barring variations in drinking patterns in Nairobi Kenya, Guyana, South Africa and North America studies have documented high proportion of FSW drinking alcohol (1). In China, 50% adolescent sex workers have sexual encounters in drunken state (Zang, 2012). In India a National Behavioral Surveillance Survey conducted in 2001 and 2006 reported overall (20%) of FSW consuming alcohol everyday during last 4 weeks in 26 states. The proportion was highest in Orissa (59%), followed by Andhra Pradesh (44%), Delhi (36%), Manipur (36%) (NACO, 2006). In Nagaland it was found that (20%) FSW were regular drinkers (Mahanta, 2013), whereas in district of Bellary in Karnataka (40%) of FSW were alcoholics (Rajaram, 2010), an NGO working for FSW in Karnataka reported that in Karnataka, 60% of FSW can be termed as alcoholics and the rest as occasional drinkers (Krittika, 2010). A study in Mumbai revealed (11%) alcohol-dependent HIV infected FSW (Samet, 2010).

In Scotland (60%) FSW reported entertaining drunk clients. In Philippines 37% were reported having sex with intoxicated clients and 32% in Beijing reported clients drinking during sex. Among reviewed studies, a high proportion (14–88%, median
66%) of male clients engaged in sexual activity were under the influence of alcohol in India, Netherlands, Northern Ireland and Thailand (1) and this was corroborated by another study in India, which reflected that (58%) of clients used alcohol during at least five of their past 10 sexual encounters (Shivaram, 2010). In National Behavioral Surveillance Survey of 2006, India documented 1/4th of clients (25.8%) of total sample reporting consumption of alcohol daily, while (81%) reported drinking infrequently before sex (NACO, 2006).

Several studies from low- and middle-income countries reported positive associations between alcohol use and ‘unprotected sex’ (e.g. no use, inconsistent use or incorrect use of condom) in daily FSW drinkers in Nairobi, Kenya, and those having sex with intoxicated clients in Philippines, Singapore, Papua New Guinea and India (Quin, 2009). A study on migrant FSW and clients from 4 high HIV prevalence states depicted significant association between alcohol consumption prior to sex with inconsistent condom use (Verma, 2010).

Studies have explored reasons of alcohol use in FSW such as decreased inhibitions prior to sex work, to cope with stigma of being FSW, psychological distress, clients preference for drunk FSW, coping mechanism in response to stressful working condition, self-medication, victimization of sexual violence (Quin, 2009; Samet, 2010; Luchters, 2014; Alem, 2006; World Bank).

**Emotional barriers**

**Client as a decision maker about condom use**

To add with the above discussion it is also found in many research studies that condom use during sexual act depends exclusively on client’s decision. Every FSW from the qualitative study from Nepal have expressed that on many occasions when condoms were not used; the decision of not using was taken by the client. The study also reports that even after FSW revealing their sero positive status yet clients have refused to use condoms (Ghimire, 2011). FSW lack confidence to negotiate condom use with clients, with the fear they would lose the clients and the money which will come through clients. This gender relation power dynamics was also reported in one more study where it is mentioned that women lack the power to insist on condom use. A male client plays a larger role in decision making because of greater power which significantly affects condom use behavior in a sexual act. FSW dependency
on clients for economic support and fear of losing them and income weakens them to promote condom use in the relation.

**FSWs’ negative perception towards condom use**

Clients’ physical appearance, their wealth, social status, behavior deceives the FSW to perceive that condom use with them can be skipped. Such distinctive clients outweigh other general clients. Who are considered as “dirty”, “reservoir of HIV/STI infection” and condom use are insisted only with them. At the same time emotional needs of FSW- desire of love, affection and intimacy with clients’ cannot be ignored. Regular non-paying clients are looked upon to satisfy the emotional needs. These emotional bonding with non-paying clients deter FSW perception of risk towards HIV/AIDS disease. The lower risk perception may lead towards negligence of condom use with them. Personal partners were considered as clean as compared to other clients so condom use was not insisted in personal relationships. Condom use was seen as intimidation to intimacy and commitment, which cause element of distrust and suspicion into partner FSW relationship dynamics. Regarding condom use, the association between love, trust, cleanliness and unprotected intercourse was cited in nearly half (46%) of CSWs’ questionnaire responses and all in-depth interviews (Ghimire, 2011). FSW low risk perception of getting infected with HIV/AIDS because of beliefs that they were not risk to others because of their young age, they feel they are healthy, kept good personal hygiene. (Handayani, 2014). Along with FSW perceptions, clients low risk perception towards the disease also hinders condom use.

**In relationships with regular non-paying partners**

Condom use with non-paying partners is a complex dimension of a FSW sexual behavior. They may never ask the non-paying partners to use condoms or keep desires to engage in an intimate relations with them so do not use condoms in such relations. FSW make condom use as a emblematic separator between personal and professional life (Varga, 1997). Another reason for not using condoms with non-paying partners is FSW powerlessness to force them to use condoms against their wish. The situation does not change even if one of them is seropositive. Loving the non-paying partners and not using condoms because of the love in the relationship is also a significant barrier of condom non use. The engrossment in love can make the
couple blind for not practicing protective safe sex method. FSW dependency on non-paying partners for economic support and sustainable support they accept all offers of non-paying partners including of not using condoms. FSW desire to conceive from their non-paying partners can also be a reason for not using condoms with them (Basuki, 2002).

Smith recounts that “[m]any young people told me that suggesting condom use as protection from HIV/AIDS would be very difficult because it would imply either that one suspected partner was a carrier (or the kind of immoral person who could be a carrier) or that one’s own sexual behavior was sordid and risky” (Ramen, 2007).

**Economic barriers**

FSW are allured with extra payment for not using condoms. The allurement of extra money for unprotected sex could become stronger than to think about practicing safe sex method for protection against HIV/STI transmission. The need of the time for FSW in terms of financial crisis would impact the immediate risk perception towards getting infected with HIV/AIDS (Basuki, 2002).

Poverty is the primary reasons for coming in sex work for FSW. It is manifested in lack of money, providing financial support to family; to fulfill the basic desires of everyday life they adopt risky behavior. The needs for survival override the practice of safe sex. Poverty decreases the self-efficacy and becomes the major barrier of condom use. Often FSW take clients without condoms at the end of the day, when they are unable to collect required amount of money after a full day of sex work (Basuki, 2002).

**Cost of condoms**

Across the word many countries have developed systems whereby condoms are made easily available to the population of FSW. In some parts of the world it is freely distributed. Over the years its availability and price was reported as one of the barrier of condom use among FSW. In Jamaica it is reported that PLHIVs are not able to afford the price of condoms because of heavy tax on the retail price of condoms (ICASO, 2009). In Sangli, Maharashtra state, India, it was found that free distribution of condoms to FSW was discontinued twice in the year of 2002-2006 which was a barrier to its use (CASAM, 2008). In Combodia and other countries
interruption in the free distribution of condom program resulted in decline in coverage of condom distribution both in brothel and non-brothel based area (ICASO, 2009). Researchers have project supply gaps of billions of male condoms in sub-Saharan Africa alone supply gaps of billions of male condoms in sub-Saharan Africa alone. The United Nations Population Fund (UNFPA) estimates that developing countries are in demand of around about 10 billion condoms per year, the demand may increase to more than 18 billion by 2015.

2.13 Effects of nonuse of condoms in FSW

2.13.1 Prevalence of STI/STD among FSW and clients

The immediate effects of nonuse of condoms are experience of symptoms of STI and prevalence of STI among FSW. Ordinarily, behavioral surveys take history of self-reported symptoms of STI among FSW, to find out the prevalence of STI among them. Depending on the study’s scope, it may or may not follow up with laboratory investigations. Beside self-reported STI symptoms, information on treatment seeking behavior of FSW is collected. Information on the above two variables facilitates understanding the burden of STI symptoms in the population and treatment seeking behavior on the same. This section will cover self-reported STI symptoms by FSW, prevalence of STI symptoms as one of the effect of non use of condom.

Behavioral surveillance of FSW track reported STI symptoms of genital discharge, genital ulcer/sore, pain during sexual act, lower abdominal pain or burning pain during urination during the last 12 months preceding the survey. The BSS reports of 2001 analysis indicated, half of the FSW reported of suffering from any one symptom of STI during last twelve months prior to the survey. In both the rounds of 2001 and 2006, higher proportion of non-brothel based reported of suffering from any one symptom of STI than brothel-based FSW. Similarly, IBBA round have published that proportion of FSW suffering from at least one of the three STI symptoms with prevalence of STI (vaginal discharge, abdominal pain, or ulcer) declined in all districts in Andhra Pradesh and Tamil Nadu, Karnataka in round two as compared with round one (R1-52% to 89%, R2-19% to 48%), Karnataka (R1-36% to 51%, R2- 34% to 43%) and in most districts in Tamil Nadu (except Chennai and Salem) in round two when compared with round one. However, in Maharashtra, the proportion of FSW who reported suffering from STI increased in round two for all
districts except Kolhapur, with increased prevalence of STI found in round two than compared to round one.

Studies have established relationship between reported symptoms of STI with prevalence of STI. It is evident, that STI are three times more commonly reported among FSW who reported genital complains. Studies in Hong Kong and in Mumbai and Hyderabad in India found that 8% and 26% reported of suffering from STI, preceding experience of reported symptoms of vaginal discharge, lower abdominal pain, ulcers (Mitchell, 2011; Das, 2011). The study reinforced the relation between genital symptoms and prevalence of STI among FSW. In alignment with these studies findings, in Brazil prevalence rates of STI reported in previous studies conducted in Brazil were congruent with self-reported vaginal discharge among FSW (Matos, 2013).

Literature review focuses the worldwide trend of high prevalence of STI among FSW and their clients because of high risk behavior of inconsistent condom use with clients. In Indonesia in a five-year study of a cohort of 3,086 women the prevalence rates of gonorrhea and syphilis increased considerably. Sao Paulo and Brazil syphilis prevalence was found to be 2-4% among FSW. (Matos, M. A., 2013). In Peru in a cross sectional study prevalence of STI was found to be higher among FSW than in general population (Carcamo, 2012). In a survey conducted among FSW in China, out of the 89% FSW who reported inconsistent condom use, 49% had past history of STI. (Y Ding, 2005). In countries like Australia a study of commercial sex workers and their clients found little difference in lifetime STI prevalence between FSW and clients accessing their sex work services (Seib, 2009). A cross sectional community based study among FSW in eight districts of Andhra Pradesh showed a significant relationship between lower consistent condom use behavior and prevalence of C. trachomatis and N. gonorrhoea among the FSW (Hemlata, 2011). The prevalence of ulcerative inflammation was found to be 82.2% after laboratory investigations among FSW in Central America. The study highlighted the need for ongoing screening program with population of FSW. Contrary to the above review IBBA second round reports fall in the rates of STI prevalence across all states except for Maharashtra and Karnataka.
Because it was found that the high proportion of asymptomatic individuals with laboratory-confirmed STI suggests missed STI treatment opportunities (Das, 2011).

2.13.2 Incidence of induced abortions

A rate of unintended pregnancies and induced abortions (IA) among FSW needs to be researched intensely, to study its adverse impact on their reproductive health. But it seems this area of FSW health has been under researched globally and nationally. Brazil, China, Moscow, Cairo, Laos has high rates of unintended pregnancies and abortions among FSW (Medeiro, 2015; Zang, 2014; Decker, 2013; Kabbash, 2013; Cleeve, 2014; Tsakirido, 2008). Likewise, studies in Europe, Cambodia, Gambia, Spain reported high figures of IA between 33%-48% (Decker, 2014; Tsakirido, 2008). China and Bagota, Columbia reported more than 50% of induced abortions in last year preceding the research (Lau, 2007; Bautista, 2008). Inconsistent condom use with clients with habit of alcohol consumption, nonuse of condom with steady partners was found to be main reason for unplanned pregnancies among Brazil FSW. FSW with steady partners reported higher incidence of induced abortions (Cleeve, 2014; Zhang, 2014; Kabbash, 2013). Nevertheless study in Columbia found that age of FSW, number of years in sex work and a previous sexually transmitted infection were associated with induced abortion. In India, there is only a single published study about induced abortion in Goa. It found that 26 percent FSW had experienced induced abortion due to lack of knowledge about contraception and low consistent condom use with clients (Wayle S, 2010). The finding was consistent with a study in Laos, where 24% FSW experienced unintended pregnancy after entering sex work, where all had ended in IA (Cleeve et al. 2014).

The detailed review reflects that consistent condom use is crucial among the population of FSW, to prevent HIV/AIDS. At the same time there is practice of low condom use among them. The determinants of condom use are intricate. It is utmost necessary to disclose these determinants of condom use by studying them.