

Responding to HIV service needs of injecting drug users in Pakistan

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ACRONYMS

AEM	Asian Epidemic Model
AIDS	Acquired Immune Deficiency Syndrome
AJK	Azad Jammu and Kashmir
ANI	Asian News International
ANF	Anti Narcotic Force
ARV	Anti Retroviral
BCC	Behaviour Change Communication
BMJ	British Medical Journal
CIDA	Canadian International Development Agency
DFID	Department of International Development
DIC	Drop-in-Centre
DPA	Drug Policy Alliance
EC	European Commission
EMRO	Eastern Mediterranean Regional Office
FATA	Federally Administrated Tribal Areas
FCA	Federal Committee on AIDS
FHI	Family Health International
FSW	Female Sex Worker
GDP	Gross Domestic Product
GoP	Government of Pakistan
GYN	Global Youth Network
HAPDHRP	HIV/AIDS Prevention with Drug Harm Reduction in Pakistan
HASP	HIV/AIDS Surveillance Project
HIV	Human Immunodeficiency Virus
HR	Harm Reduction
HRG	High Risk Group
IBBS	Integrated Behavioural and Biological Surveillance
IDU	Injecting Drug User
IHRA	International Harm Reduction Association
ILO	International Labour Organization
KIT	Royal Tropical Institute
MAP	Monitoring the AIDS Pandemic
MoFA	Ministry of Foreign Affairs
MoH	Ministry of Health
MoNC	Ministry of Narcotic Control
MoU	Memorandum of Understanding
MSACS	Manipur State AIDS Control Society
MSM	Male who have Sex with Male
NACP	National AIDS Control program
NFHS	National Family Health Survey
NGO	Non Governmental Organization
NHMIS	National Health Management Information System
NSEP	Needle Syringe Exchange Program
NWFP	North West Frontier Province

PACP	Provincial AIDS Control Program
PLHIV	Person Living with HIV
RIAC	Rapid Intervention and Care
SASO	Social Awareness Service Organization
SDP	Service Delivery Package
STI	Sexually Transmitted Infection
UN	United Nations
UNAIDS	United Nations Joint Programme on HIV/AIDS
UNDCP	United Nations International Drug Control Programme
UNDP	United Nations Development Program
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
UNODC	United Nations Office on Drugs and Crime
US	United States
VCT	Voluntary Counselling and Testing
WB	World Bank
WHO	World Health Organization

ABSTRACT:

Drug abuse is increasingly becoming a major social and public health problem in Pakistan, specially injecting drug use. Poverty and geographical location of Pakistan also makes the country most vulnerable. However, it is often overshadowed by other issues the country is facing. Until the mid-1990s popular mode of taking drugs was inhalation. Due to the heroin supply disruptions and many other reasons drug users began to shift from inhalation and other routes to injecting, also synthetic drugs along with pharmaceutical combinations easily available over the counter. The issue of injecting drug use has direct links with poverty, social system, government policies and deprivations. More and more young people are falling, or converted to injecting drug use. Stigma and confinements faced by IDUs make the situation even more difficult for them and for any effective response.

Pakistan has moved from low-level to a concentrated level HIV epidemic, primarily because of the high prevalence among injection drug users (IDUs). After the first reported outbreak of HIV among this group in 2003, it continues to increase reached to other cities. 31% prevalence of HIV is reported in Karachi during 2007. Evidence informs about modest interaction between some high risk groups including IDUs. For example IDUs reportedly paid to have sex with female, male or hijra sex worker. This kind of interaction can potentially transmit HIV infection from high risk groups to low risk groups such as the general population. It is highly possible that an IDU can pass on the infection to an FSW, MSW who can possible have sex with a married man and this way the transmission dynamics take place.

While there are harm reduction programmes in the country providing needle/syringe exchange and other services. However, main challenges in reducing risk of HIV transmission among IDUs and preventing further spread are to achieve the desired behaviour change along with increase coverage. At the moment the coverage is no more than 15-20%. There are still no drug substitution programmes in the country and no ARVs for HIV positive IDUs.

Concentrated HIV epidemic among IDUs show shift of trend of the epidemic in Pakistan. Policies should be made focused on appropriate coverage of harm reduction programs, increasing health awareness and making services available and accessible for the people in need such as IDUs. Drug substitution programs and ARV services for IDUs need special attention from government, NGOs and donors. Policies should be made to address challenges that programs can face in Pakistani context.

Key Words: HIV, AIDS, Pakistan, IDUs, Transmission, Concentrated epidemic, NACP, Gender, Drug use, STIs, Harm reduction, and combinations.

INTRODUCTION:

After completing graduation from medical collage and one year internship in 1994, I started working as a Medical Officer in Health Department. Later I worked with various organizations including Aga Khan University (AKU), Interact Worldwide Pakistan (IWP) and The Asia Foundation Pakistan (TAF). In the year 2003, first outbreak of HIV among IDUs in Pakistan was reported from Larkana, a city near my native village. This was the moment when first time I felt the presence of HIV epidemic very close. During 2004, while working with Interact Worldwide and Pakistan National AIDS Consortium, I got the opportunity to work with Sindh AIDS Control Program and NGOs working with populations which are considered more at risk. I was also given an opportunity to work in HIV/AIDS second generation surveillance project. Here I realised the importance of service needs for these groups specially Injecting Drug Users (IDUs). Latest upsurge of HIV among IDUs in many cities across Pakistan make me to thing about situation and current responses to IDUs and HIV and AIDS among them. This research provided me opportunity to look the situations and response towards the issue of IDUs and HIV and also to look the evidence of best practices around the world and within the country.

Injecting is becoming the most preferred way of drug use in Pakistan since last ten years, smoking and inhalation were the common methods of drug use before late 1990s. Drug users inject not only heroin but also injectable opiates (pain killers), tranquilizers and combinations. Main reason of that shift in drug use behaviour is considered due to low cost of combination of opiates, antihistamines and tranquilizers as compared with cost of heroin and on other hand these pharmaceutical drugs are easily available. *(ANF/MoNC, UNESCAP, 2008)*

According to estimates there are around 150,000 to 175,000 Injecting Drug Users (IDUs) in Pakistan and most of them are street based and of younger age groups. Recent studies reveal that due to their behaviour of sharing unclean needles and syringes there is high prevalence of Hepatitis C and HIV among them. *(UNODC, 2008)*

In Pakistan much stigma is associated with IDUs and they are also often being criminalized due to drug use. If the drug user is woman then stigma increases many folds. About 50% of IDUs in Pakistan are being reported married. There is lack of awareness about HIV among them and also services are not user friendly for IDUs. *(Nai Zindigi, 2008)*

It becomes important to know the current trends of HIV epidemic, risk factors and current responses especially in the situation, where country is already facing concentrated epidemic among IDUs. Also important is to have knowledge about focus of responses on risk factors and drivers of HIV among populations with increased risk such as IDUs. *(Wilson, D. and Das, D.T., 2008)* and *(Altaf, A. et al, 2008)*

Purpose of the study:

Pakistan is going through an epidemiological transition of HIV and AIDS epidemic. In the mid nineties majority of reported cases were Pakistani labourers deported from Gulf countries. This scenario changes after the first reported outbreak of HIV infection among injection drug users (IDUs) in Larkana in June, 2003. Since then there has been a rapid spread of this infection among IDUs. According to the data of Sindh AIDS Control Programme till December 2003 HIV infection among IDUs was reported to be 0.4% (3/720) however, by the end of 2004 the findings of second generation surveillance indicated that the infection rate had surged to 26% in the largest city Karachi. (*NACP-HASP, 2007*)

The rapidly increasing HIV epidemic among IDUs in Pakistan, interlink between various populations with high risk behaviours like IDUs and sex workers. High risk injecting and sexual behaviours, high levels of other STIs, and low levels of HIV knowledge, provides a clear warning of the potential for a serious HIV epidemic in Pakistan. Lack of services focusing special needs of IDU population groups, added with deeply rooted stigma against drug use and IDUs within various sectors of society can potentially fuel situation. The HIV infection can go beyond IDU groups with increased risk to spread among men and women from lower risk groups such as wives of IDUs and clients of sex workers. Here the knowledge about shifting trend of epidemic and also the analysis of risk factors and available services become important to design preventive strategies. (*Haque, N. et Al, 2006*)

1. BACKGROUND INFORMATION ABOUT PAKISTAN

1.1 Geography and demography:

Pakistan emerged as an independent state 61 years ago on 14th August 1947, as a result of the division of former British India. Pakistan has total boundary 6,774 km and coastline of 1,046 km. Pakistan covers 7, 96,095 km esquire. Population of country according to population census conducted in 1998 was 132.35 million however current projections show it around 160 million with the female male ratio of 50:50. (*GoP, 2008*)

The country is a federation of four provinces: Sindh, Punjab, North West Frontier Province (NWFP) and Baluchistan. In addition the federal government is responsible for the Federally Administrated Tribal Areas (FATA), The Northern Areas and Azad Jammu and Kashmir (AJK).

Approximately 95% of total population is Muslim and the teachings of Islam play a significant role in shaping the social and cultural values of the Pakistani society. (*Statistics division GoP, 2006*).

1.2 Health status and health system:

Pakistan has made significant progress in improving health services. Statistics show better health indicators of country presently then ever. For example, in early 1970s, the infant mortality rate was 139 per 1,000 live births which is 77 per 1,000 live births currently. The life expectancy has increased from 57.4 years for women and 57 years for men up to 66.4 years and 64.4 years for women and men respectively. Improvements can also be seen in reduction of population growth and immunization coverage etc. Despite improvement, mortality and morbidity rates are still very high in Pakistan. (*NHMIS/MoH, 2008*)

Along with the GoP there is an important role of private sector to expand the availability and quality of services. After an increase of 16% during last decade total expenditure on health is 2.1% of GDP where as 76% of all health expenditure goes out of pocket. Health services such as public, private, formal, informal are available in the country with the variation of access, and utilization mainly due to factors such as socio-cultural and demographic differences, and also due to economical and political conditions. (*Babar, T. S. and Hatcher, J., 2004*)

Main challenges for Pakistan in health care service to address such issues include;

- Shortage of trained health workers
- Health infrastructure underdeveloped in far-flung districts

- Public sector doctors establishing their own private practice
- Poor-quality water and sanitation
- Insufficient family planning
- Negative political interference
- Insufficient logistical support for medicines (supply) and prevention programs
- Lack of accountability (also of patients)
- Lack of openness (in both government policy and society)
- Gender inequalities

(Fatimi, Z. and Avan, I., 2002) and (USAID, 2008)

Table 1: Coverage with primary health care services indicators

1	Population with access to local health services, total (%)	96
2	Population with access to local health services, urban (%)	100
3	Population with access to local health services, rural (%)	92
4	Contraceptive prevalence rate (%)	34
5	Antenatal care coverage (%)	41
6	Births attended by skilled health personnel	19

(WHO EMRO, 2008)

Table 2: Health status indicators

1	Total life expectancy at birth (total years)	64
2	Newborns with low birth weight (%)	37
3	Children underweight (%)	30
4	Infant mortality rate (per 1000 live births)	77.0
5	Under five mortality rate (per 1000 live births)	98.0
6	Maternal mortality ratio (per 10000 live births)	350

(WHO EMRO, 2008)

Despite increase in life expectancy of both male and female and claimed better coverage of health services, fewer births are being attended by skilled personals. High infant and under five mortality rates, and high maternal mortality ratio indicates the need of lot much still to be done to improve the health status and health services in Pakistan.

1.3 HIV and AIDS in Pakistan:

Pakistan still has low level of HIV epidemic in the general population. According to National AIDS Control Program (NACP), Ministry of Health (MoH) there are 3,099 known HIV positive cases in the country. Province-wise distribution is given in the table 3;

Table 3: Province wise reported HIV and AIDS cases

Province	HIV cases	With AIDS
Sindh	1733	108
Punjab	643	79
NWFP	444	62
Balochistan	279	16
Total	3,099	265

(NACP/MoH, data till March 2007)

However, NACP/MoH using WHO/UNAIDS Epiforecast model the estimated number of HIV cases is thought to be approximately 80,000 to 100,000 with the prevalence of 0.1% among the general population. Data reveals that most of the infections occurred between age of 20-44 years with males out numbering females by the ratio of 7:1. HIV cases are reported from all provinces and regions of country but majority of cases is from largest city and country's biggest port and business capital Karachi.

2. PROBLEM STATEMENT, STUDY QUESTIONS AND METHODOLOGY

2.1 Problem statement:

Findings from second generation surveillance and published literature suggest that Pakistan has progressed from nascent to concentrated level of HIV epidemic. HIV prevalence is consistently more than five percent among one population with high risk behaviours which is injection drug users (IDUs) (Altaf, A. et al, 2007 and Vermund, S.H. et al, 2006). Since last few years some shift in trend of epidemic can be noticed. Growing number of IDUs are being tested positive. High prevalence of HIV in IDUs as compared to other three high risk groups can be seen in the table 4 below;

Table 4: High prevalence of HIV in IDUs as compared to other three high risk groups

City/Reference	IDUs (n=400 in each city)	MSWs (n=200 in each city)	FSWs (n=400 in each city)	Hijras¹ (n=200 in each city)
Karachi: NACP/FHI	23%	4%	0%	2%
Karachi: IBBS Pilot (HASP/NACP)	26%	7%	0%	0%
Lahore: NACP/FHI	0.5%	0%	0.5%	0.5%
Lahore IBBS Round 1 (HASP/NACP)	3.5%	0%	0%	0.5%
Rawalpindi: IBBS Pilot (HASP/NACP)	0.5%	0%	0%	0%
Quetta: IBBS Round 1 (HASP/NACP)	9.5%	0%	0.7%	0.5%
Hyderabad: IBBS Round 1 (HASP/NACP)	25.4%	0%	0%	1%
Sukkur: IBBS Round 1 (HASP/NACP)	19.4%	0%	0%	0.1%
Peshawar: IBBS Round 1 (HASP/NACP)	0.7%	0%	0%	1%
Faisalabad: IBBS Round 1 (HASP/NACP)	13%	0%	0%	0.5%

(NACP/FHI, 2005), (NACP, 2004) and (NACP/HASP, 2007)

¹ "In Pakistan the large majority of transgendered individuals have a social identity called 'Hijras'. 'Hijras' are biological male but have a female gender identity" (NACP/HASP, 2007)

“Recent changes in epidemiologic data regarding HIV prevalence in Pakistan suggest alarm. Unpublished data indicate a recent upsurge in HIV prevalence from surveys of IDUs all around the nation”. (*Vermund, S.H. et al, 2006*).

HIV is now documented routinely among IDUs not only in Karachi but in all other big cities of the country, including Rawalpindi, Lahore, Hyderabad, Sukkur and Sargodha. Therefore it has become important to analyse the service needs of IDUs for HIV prevention. (*Shah, S.A. et al 2004*).

2.2 Study questions:

This research study is intended to find the replies of following question;

1. Can high prevalence of Drug Use in country and HIV among IDUs move Pakistan towards HIV epidemic in general population?
2. What are the health needs of IDUs in context of HIV, and how can HIV prevention and care services to IDUs be improved?

2.3 Methodology:

Literature review and both published and unpublished data will be used to reach the conclusion. Health system response plus some work done by NGOs and donors will also be seen. Analysis of policy, implementation strategies will also be reviewed to see the current effect of those interventions and future impact. Review of literature available on Medline and KIT library and internet will be done. National reports will also be included in discussion.

Key Words:

HIV, AIDS, Pakistan, IDUs, Transmission, Concentrated epidemic, NACP, Gender, Drug use, STIs, Harm reduction and combinations.

To achieve the objectives of research, the study question number one will be answered in chapter number four and five. Literature review and discussion under chapter four contains situation analysis of drug use, injecting drug use and evolution of HIV epidemic in Pakistan. While, chapter five responds the link between IDUs and HIV by looking at IDUs as bridge population, various determinants which can make IDUs vulnerable for acquiring HIV infection. Asian epidemic model and current debate among HIV experts is also discussed in chapter number five.

Answer of the study question number two is explored in chapter number six by literature review and discussion about general response to HIV and

AIDS in Pakistan. IDU specific HIV services needs in Pakistan are reviewed and discussed in light of evidence informed international best practices and actual national response. Situation of access of IDUs to treatment care and support is also discussed and analysed in chapter number six to find answer of the study question number two.

2.3.1 Limitations of the study:

Despite the careful efforts there might be some potential limitations in methodology and content of this study. Whole study is conducted on the basis of literature review without collection and use of primary data. Due to the lack of available comparative data for triangulation some inconsistencies might have occurred. During analysis some reports from various organisations and some media/news articles also have been used which can potentially have biases. Some data was difficult to find from the Pakistan especially about actual STIs and HIV services for IDUs. Therefore careful interpretation is needed.

This study looks at the HIV situation among IDUs in Pakistan and also contains the analysis of available services and evidence from international best practices. However, service needs of IDUs are more seen in the context of HIV and AIDS and less in the other aspects, i.e. priority service needs of IDUs can also be other than HIV and AIDS services. Responding to HIV services needs of IDUs not only requires the health system based services from both government and non government sectors, but exploration of deeply rooted micro and macro environmental factors is also needed. Being a medical doctor, researcher might have not touched these issues in much detail.

Findings of this study will indicate the HIV service needs of IDUs and will also provide policy recommendations for planning future strategies in this regard.

3. OBJECTIVES OF THE STUDY:

This research is intended for Ministry of Health (MoH) National AIDS Control Program (NACP), Non Government Organisations (NGOs) and donors to;

- Provide basic information about epidemic such as levels and trends of HIV infection and actual response in Pakistan for planning interventions focussing IDUs.
- Provide information for decision makers to help them understand the impact of prevention activities among IDUs leading to informed policies and program development.

4. SITUATION OF DRUG ADDICTION, INJECTING DRUG USE AND HIV IN PAKISTAN

This chapter will describe the situation of drug addiction, injecting drug use and also the history of HIV and AIDS in Pakistan in context of trends of epidemic in starting from late 80s till 2008.

4.1 Drug addiction:

Drug addiction has effected and is affecting people and societies throughout the world. According to the World Drug Report 2005 more than 200 million people have used drugs at least once in the last one year. This becomes about 5% of adult population up to 45 years of age. Drug addiction fuels the problems in individual's life by effecting their health and some times security and respect also. Linkage between drug use and crime can make societies and governments unstable resulting in underdevelopment. Poverty and geographic location of Pakistan makes it one of the most vulnerable countries. (*UNODC, 2005*)

Drug addiction is increasingly becoming a major social and public health problem in Pakistan; however, it is often overshadowed by several other issues that the country is facing. In 1980s after the influx of Afghan refugees escaping Soviet invasion brought this menace of drugs with them. Afghan refugees started doing drug business in the country. As a result there was significant increase in local consumption of heroin in Pakistan but till mid nineties inhalation was the popular mode. (*ANF/MoNC, 2008*)

It is also believed that as the laws and culture of the country do not allow alcohol use which also pushes individuals to other drugs. Speaking in National assembly on February 8 2007, a parliamentarian Ali Akbar Wains called government to at least relax if not lift the ban on alcohol. According to Mr. Wains, "more and more youngsters were getting addicted to drugs like heroin and morphine in the absence of free availability of alcoholic drinks". (*ANI, 2007*)

Drug addiction touches the most vulnerable among the communities, majority of them belong to poor, unemployed, in and out of school/collage youth and also affected are their families. Major factors which are considered to drive individuals specially youth to drug addiction are;

- Peer pressure
- Social taboos
- Economic frustrations
- Lack of recreational places/opportunities

However, drug addiction has entered in Pakistan without much distinguishing between social class, level of education and status of employment. (*Alam, S., 2002*)

To find statistics about drug problems in Pakistan is very difficult because most of the data found is old and not able to provide clear picture. Experts estimate that number of addicts of all kinds of drugs is rising rapidly. Four to five million drug users are estimated countrywide with the annual increase of 7%. People living in big cities are worst affected by drug addiction where drug addicts can be seen openly on the streets using drugs. (*Baloch, S., 2008*)

4.2 Injecting drug use:

Issue of injecting drug use is relatively new in Pakistan and somehow overshadowed by other problems. Injecting drug started to emerge in Pakistan during late nineties. The situation became worse after the second Afghan war in 2002 when heroin supply was interrupted and majority of those drug users who were on inhalation started shifting towards injections and using pharmacological combinations. Using pharmaceutical synthetic drugs is new and some how unique dimension of injecting drug use in Pakistan. Growing numbers of youth are falling in or converted to injecting drugs. According to recent estimates the number of street based IDUs in Pakistan is more than 150, 000. (*UNODC/ANF, 2006*)

Issue of injecting drug use is more being seen in isolation which however has actually direct links with poverty, social system, government policies and deprivations due to many reasons. Some studies conducted on synthetic drugs and chronic heroin users reveal that factors associated with route transitions are;

- Young age
- Homelessness
- Friendship with IDU
- Easy availability
- Cost of the drug
- Usage of combination of more than one drug.

Three main factors came out are low cost of the drug, (easy) availability and use of combination of more than one drug. However, shift from

inhalation or other routes of drug use to injecting route varies in different cities and areas. Shift towards injecting drug use in the NWFP province and northern territories is lesser than other provinces. There might be some cultural reason along with peer influences, Habit, quality of heroin, Price of heroin or other drugs. (*Agha, A. et al, 2003*) and (*Emmanuel, F. and Attarad, A., 2006*)

Pakistan feature "professional injectors" or 'street doctors' who inject drugs to drug users and receive payment from them. These street doctors or professional injectors are reported to reuse the needle for multiple IDUs. However, according to second generation surveillance data 73% IDUs reported never receiving injection from street doctors. (*NACP/HASP, 2007*)

4.3 Stages of HIV epidemic in Pakistan:

4.3.1 Early stage (1980s):

In the year 1986, an African seaman was diagnosed as AIDS patient and become the first officially recognized case of AIDS in Pakistan. In the year 1987, a first Pakistani citizen was also reported as AIDS patient in Lahore. (*Nanan, D.J. et al, 2000*). Majority of cases identified in these early years were reported from coastal city and business capital Karachi, the largest city of Pakistan, and many of them were non Pakistanis. It was commonly believed at that time that AIDS is the disease of foreigners and that Pakistanis can not acquire it due to their strong social, religious and cultural traditions. This public belief was later challenged when some Pakistani men, women and children were also found HIV positive during late 1980s.

4.3.2 Second stage (1990-1995):

During this stage of epidemic, an increasing number of Pakistanis living or travelling abroad became infected with HIV and then returned to Pakistan. There was wide spread ignorance about HIV and AIDS, resulting lack of knowledge and information either about the routes of infection or about ways to prevent transmission. Some of these HIV positive men subsequently infected their wives who, in some cases passed the infection to their children. The first recognized transmission of HIV infection through breast feeding in Pakistan was reported from Rawalpindi in the year 1993. (*Shah, S.A. et al, 1999*).

4.3.3 Third stage (1995-1999):

In the mid to late 1990s, cases of HIV and AIDS increasingly began to appear in the populations such as sex workers, injecting drug users and jail inmates. The proliferation of infection among these populations was

assumed to have facilitated at least to some extent a further in general population. During this stage of Pakistan’s HIV epidemic it was recognized that transport workers and migrant labourers were bridging to spread the infection along the major trade and transport routes within the country. During this period it was thought that inadequate sterilization techniques along with inappropriate use of medical equipment are contributing factors for the increasing HIV epidemic. (*World Bank, 2005*)

4.3.4 Fourth stage (2000-2008):

In this fourth stage of epidemic in Pakistan HIV and AIDS cases start to appear from various parts of country and general population. Some most at risk population groups such as large number of IDUs was found HIV positive during mid 2000s. (*Emmanuel, F. and Fatima, M. 2008*)

In June, 2003, first alarming out break of HIV among IDUs was reported from Larkana. Larkana is a smaller city with 0.7 million inhabitants in southern Sindh province of Pakistan. An IDU prisoner at a local jail was tested positive which triggered local authorities to test more IDUs. Total 175 IDUs were tested during same month out of them 19 were found HIV positive. According to Sindh AIDS Control Program (SACP), this number reached to 45 within the time of eight months. (*Shah, S. A. and Altaf, A., 2004*)

After the outbreak of HIV among IDUs in Larkana in 2003, surveys and studies were conducted in some other cities of Pakistan where HIV prevalence among IDUs was still found very low. However, just after two years data from second generation surveillance and other studies provide the evidence of the development of concentrated epidemic among IDUs. (*MoH/NACP, 2007*)

Table 5: Cities of Pakistan with reported HIV outbreaks sero-surveillance surveys in 2005

City	% HIV +ve	No. of IDUs (estimated)	No. of HIV +ve IDUs (estimated)
Karachi	26.5	12282	3255
Sukkur	19.6	2234	439
Hyderabad	18.3	1003	184
Faisalabad	13.2	5244	695
Quetta	9.7	155	15
Sargodha	9.5	1050	100
Lahore	2.5	2560	64
Sialkot	1.2	550	7

(*MoH/NACP, 2007*)

In the table 5, we can see the high prevalence of HIV in the most of the cities across Pakistan. However, the situation of HIV among many cities in Pakistan is yet not known.

5. LINK BETWEEN HIV AND INJECTING DRUG USERS:

This chapter includes the analysis of the link between HIV and IDUs. Literature review and discussion is about IDUs bridging HIV, determinants of HIV among IDUs including internal and environmental and contextual influencing factors. Chapter also include the Asian epidemic model and current debate about HIV epidemic in Asian countries which is relevant to Pakistan.

5.1 IDUs bridging HIV:

Worldwide 10% of HIV cases are credited to IDUs. Involvement of IDUs in HIV epidemic is documented in different countries across the world. Increasing numbers among IDUs are being reported HIV positive throughout the world especially in Asia. Drug injection is being considered as the strongest initial driver of HIV infection in many parts of Asian continent. Needle containing HIV infected blood can transmit the virus directly into the blood. Therefore, sharing of needle between an infected and uninfected person is an efficient ways of spreading HIV among people. (*Aceijas, C et al, 2004*) and (*Map report, 2005*)

There is evidence that in the parts where there is rise in HIV infection among IDUs, rise of HIV rates is also seen in other populations with high risk due to their unsafe behaviors. Infections which have spread among IDUs have then been transmitted sexually to people who do not inject. For example, increase in HIV prevalence is reported among the sex workers in some parts of China and Vietnam after the rise of HIV among IDUs in both parts. It is believed that IDUs transmit the seed infection to most sexual infections. (*Map report, 2005*)

To find out the reply of how injecting drug use can fuels the HIV and AIDS epidemics one have to explore relationship between injecting drug use and HIV which is quite complex. However, literature highlights some areas of concern. The Injecting drug users usually adopt a pattern of injecting in the groups and sharing drugs and injecting equipment with each other. Spread of HIV among IDUs can be seen differently then the spread of infection through sexual route. HIV prevalence rise sharply among the people who share injecting equipment as it is most efficient way of transmitting infection. Growing numbers of IDUs share their needles and syringes which are usually unclean and already used. (*MAP Report, 2005*)

Alike several other countries in Asia, Pakistan also possess high prevalence of HIV among IDUs with the potential of expanding into other high at risk populations such as male who have sex with male (MSM) and female sex workers (FSWs). The presence and interlinking of IDUs and other populations with high risk, indicate the potential for a rapid spread

of HIV within those populations and its further expansion to the general population through 'bridging groups'. Low levels of HIV knowledge and prevention methods potentially can make the situation. (NACP/HASP, 2007)

According to the NACP-HASP National Report of round two of surveillance in Pakistan there is modest interaction between some high risk groups including IDUs. For example 22.2% IDUs in 12 cities reportedly paid to have commercial sex with FSWs; similarly 13.2% IDUs paid male or hijra sex worker to have commercial sex. This kind of interaction along with needle sharing and low use of condoms is an indicator of the potential of transmission of HIV infection from high risk groups to low risk groups such as the general population. It is highly possible that an IDU can pass on the infection to an FSW who is quite possible to have sex with a married man and this way the transmission dynamics takes place.

Table 6: Selected sexual behaviour patterns among IDUs

Practice/Behaviour	IDUs (n=4,039)
Age of first sexual intercourse	18.1 ± 3.6
Never had sex	16.2%
Regular female sex partner (last 6 months)	
• Sexually active with regular female sex partner	45.7%
• Condom use at last sex	16.5%
• Always used a condom with regular partner	9.9%
• Never used a condom with regular partner	40.7%
Had sex with a FSW (last 6 months)	26.6%
• Mean number of paid female partners (past 6 months)	3.6 ± 4.
• 5Condom use in last sex with paid female sexual partner	20.9%
Had sex with a MSW or HSW (last 6 months)	13.2%
• Condom used in last sex with MSW or HSW	12.9%
• Lubricant use in last sex with MSW or HSW	54.2%
Exchanged sex for drugs or money (last 6 months)	19.6%

(NACP/HASP, 2007)

As majority of IDUs are male therefore usually most of them do not get engaged in sex work, how ever many of them are clients of sex workers. Even if any IDU acquires HIV infection sexually form any sex worker, that infection can easily be transmitted to other IDU efficiently by needle sharing and further to other sex workers or regular sexual partners via sex. (Saidel, T. J. 2003)

5.2 Determinants of HIV in relation with IDUs:

Determinants of HIV infection among IDUs are complex. Some of these factors are at individual level and others in lie in the context of various sectors of society. For assessing vulnerability to HIV and AIDS in IDUs not

only require to study the individual behaviours, but also the impacts of both micro-environment and macro-environment factors. (WHO, 2005)

Research studies suggest that IDUs are at increased risk of getting HIV and Hepatitis C infections mainly because of;

- Individual risk behaviours;
 - Sharing of injecting equipment
 - Sexual behaviors

- Community norms and context (when peer groups or community norms have impact on behaviours of IDUs)
 - Stigma and discrimination against IDUs
 - Confinement and incarceration of IDUs by law enforcement agencies

(MAP Report, 2005) and (WHO, 2005)

5.2.1 Needle and syringe sharing:

Needle sharing is most efficient way of HIV transmitting. In all other forms body tissue works as a shield of protection, however, by injecting needle facilitates virus to enable the shield of body tissue and makes it reach directly to blood flow. When individual is newly HIV infected the viral load in the blood remains usually high because body takes time to produce anti bodies against the virus. During the state of high viraemia infection could be transferred to other person quickly. Unsafe injection therefore can pass infection to the people more rapidly. (Map report, 2005)

In Pakistan, sharing of needles and syringe varies considerably between the cities. Data from second generation surveillance conducted in 12 cities of all four provinces show that higher proportion of IDUs in Sukkur, Multan, Gujranwala, Quetta and Lahore reported either sharing their used needle/syringe with other IDU or injecting with used needle/syringe by other IDU. Proportion of IDUs sharing needles/syringes during last injecting practice ranges from as low as 3% to as high as 63%. However, some cross-sectional studies from Pakistan report 80% IDUs share the needle and syringes. (Altaf, A. et al, 2007) and (NACP/HASP, 2007)

5.2.2 HIV related knowledge among IDUs:

It is generally believed that IDUs indulge in unsafe injecting and sexual practices because of their lack of knowledge about HIV and AIDS. However knowledge gap is not that much among the IDUs in Asia. 70% of IDUs in Sichuan province in China and nearly 100% in some parts of India, Indonesia, Kazakhstan, Malaysia and Nepal knew that sharing

injection could spread HIV. Such knowledge however usually not brings in safe behaviours among IDUs. (*Map report, 2005*)

Knowledge level about HIV among Pakistani IDUs is not much high but never the less too low. About 71% and 67% IDUs knows about sexual and needle sharing modes of HIV transmission respectively. 44% IDUs have knowledge that condom use can prevent HIV transmission and 53% have knowledge that clean needles can prevent HIV transmission. Table 6 shows the findings from second generation surveillance.

Table 7: HIV related knowledge and program participation among IDUs

Knowledge area	IDUs (n=4,039)
Ever heard of HIV and/or AIDS	74.0%
Healthy looking person can have HIV/AIDS*	58.1%
HIV transmitted by sexual intercourse*	71.9%
HIV transmitted by sharp instruments/needles and syringes*	67.7%
HIV transmitted by blood transfusion*	11.1%
Condoms can prevent HIV transmission*	44.3%
Sexual abstinence to prevent HIV transmission*	57.4%
Clean syringes/needles to prevent HIV transmission*	53.9%
Self perception of risk for HIV *	31.1%
Know where to receive HIV test*	11.6%
Have been tested for HI V*	6.1%
Knows test results*	2.2%
Awareness of STIs	55.3%
Self-reported STI in past 6 months *	10.4%
Received treatment for reported STI *	62.5%
Ever heard of HIV prevention programs	30.6%
Participated in HIV program s	15.6%

*Valid percentages (i.e., of those of "ever heard of HIV and/or AIDS")
(*NACP/HASP, 2007*)

5.2.3 Sexual behaviour of IDUs:

Evidence from some countries that drug use especially injecting drug use decreases sexual activity. That was reason to believe that people who inject the drugs are not very sexually active. However, data from many Asian countries report sexual activities among IDU populations. IDUs are found involved in sexual relations with their spouses/regular partners and they also buy and sell the sex. If the increased number of people who do not inject will establish sexual relations with IDUs, then HIV virus which was primarily acquired from needle/syringe sharing can sexually spread among non-injecting populations. That is how sexual activities of IDUs especially buying and selling sex make the deadly combination of high risk behaviours. (*UNODC/GYN, 2004*) and (*Map report, 2005*)

Reported low condom use and trend of injecting drugs among sex workers makes situation even worse. Evidence of IDUs buying sex is available from many countries. On other side, a study in Bangladesh shows that about 4% of FSWs are IDUs and 20% have IDUs as clients out of them 5% to 10% are having regular IDU clients. (*Map report, 2005*)

Except IDUs other population group considered most at risk of acquiring HIV and potential driver for spread in Asia is Male having sex with male (MSM). Many of the first reported HIV and AIDS cases across the world were from MSM populations. It is said that the epidemics driven by IDUs and by MSM overlap i.e. many MSM are being reported injecting drugs across the Asia and on other hand use of certain drugs such as amphetamines, can also increase the risk of transmission during unprotected anal sex. (*Map report, 2005*)

Cross sectional studies conducted with the IDUs linked with the harm reduction programs in, Lahore, Faisalabad and Sargodha show the link between high risk injecting and sexual behaviours among IDUs. About 50% of IDUs in Pakistan are married and most of them continue unprotected sexual relations with their wives. 80% reported that condom was not used in their last sexual contact. 15% of wives of HIV positive IDUs were tested positive in three cities of Punjab province and 25% of the respondents reported symptoms of sexually transmitted infection during past six months. (*Nai Zindagi, 2008*). Other study conducted in Karachi shows that 58.3% IDUs reported paid for the sex and 64% reported never using condom. Prevalence of Hepatitis C and Syphilis among IDUs was reported 94.3% and 13.1% respectively. (*Altaf, A., et al, 2007*)

5.2.4 Sigma and confinement:

Stigma and confinement is the contextual factor which put IDUs in risk of getting HIV and deny their service needs. Drug taking is a strongly disapproved socially. In many countries drug taking is a criminal act and punishable under law. In Pakistan, the use of intoxicant drugs is a cultural taboo and drug users are discriminated and considered sinner. When IDUs are women, the stigma and vulnerability they face is even more. Social exclusion and criminalization associated with drug use makes the IDUs hard to reach. (*Nai Zindagi, 2008*) and (*UNODC/UNAIDS, 2008*)

IDUs often receive moralistic or judgmental attitudes and responses perceiving them as an outcaste. Legal and ethical factors are also creating challenges to the enabling environment. For example, the illegal nature of drug use can lead young people to hide their drug consumption. Despite the risk that injecting can transmit HIV through sharing of needle/syringe they can adopt injecting behavior to avoid even smell of smoke. This all also keep IDUs away from the services they need. On other hand health

services are not widely available for IDUs, existing services are either not sufficient coverage wise or IDUs are being discriminated there resulting denial of services to them. Policies to make services user friendly for IDUs are not being made or implemented, this also shows the stigma against IDUs as Policymakers and other authorities do not want to be frank about HIV or IDUs. (*Deany, P., 2000*).

There is evidence that IDUs report relatively high rates of arrest and imprisonment, which is of great significance for HIV prevention programming. Though, relevant data is limited and difficult to access however there is literature shows link between imprisonment and the increased risk of needle sharing and unprotected anal sex. According to Alia Kashif of Buisness Recorder, "75 percent of prisoners in the country are incarcerated for drug related offences". (*Kashif, A., 2007*) and (*Agha, A. et al, 2003*)

In Indonesian capital Jakarta sentinel surveillance in 1999 showed 47% HIV prevalence among IDUs. After that, prevalence of HIV among prisoners in prisons of the city also started to rise and reached to 25% till year 2002. In Thailand HIV prevalence among IDUs who were never imprisoned was reported 20%, IDUs who remained in prison but not report injecting was 38% and among those IDUs who remained in prisons and reported injecting HIV rate was 49%. Findings of various studies can only suggest possibility of getting HIV inside the prison however do not provide enough evidence. (*Dolan, K. et al, 2007*) and (*Map Report, 2005*)

5.3 Asian epidemic model and current debate:

"The Asian Epidemic Model (AEM) has been designed to reflect the primary groups and transmission modes driving HIV transmission in Asia". AEM reveals that despite fact of low condom use and less awareness, HIV rates remain low for more than two decades in various countries. However, with the rise of HIV among IDUs, epidemic may get "kick start" very quickly (*Brown, T. and Peerapatanapokin, W., 2004*).

However, this is a hot topic of discussion right now that;

- Is there any real threat of generalized HIV epidemic in Asian countries?
- Do HIV and AIDS still require or ever required an exceptional response?

In some recent studies it is shown that the risk of HIV transmission in heterosexual partnerships, in the presence of the recommended effective treatment is low, but not zero and risk of transmission in male to male partnerships is comparatively higher but that is also with many contacts. However, condom use is still being emphasized because there may be

substantial increase in the incidence of HIV infection if condom use is declined due to perceptions of lower risk. (*Wilson, D. P. et al, 2008*)

In year 2005-2006 in India, National Family Health Survey – 3 (NFHS) have already shown lower nationwide HIV prevalence among adult population. Estimates in 2006 show decrease in HIV from 5.1 million to 2.5 million. These estimates are made on the basis of NFHS-3 data and data from antenatal clinics. However, considered bias of these estimates may be under representation of populations most at risk. Other bias may be that the women who use antenatal services are generally higher in education and knowledge level as compared to those women who do not or can not avail these services. (*Arora, P. et al, 2008*)

In his reviews published in British Medical Journal (BMJ) in 2007 and 2008 Roger England, chairman, Health Systems Workshop, Grenada, has criticised the exceptionality HIV and AIDS is being given globally in the area of health . According to him due to exceptionality of HIV and AIDS rest whole health system is compromised, and people around the world suffer. Countries can not get required support and attention to provide health services delivery to their people which they need. (*England, R., 2007 and 2008*)

In response of Roger England, series of arguments has started among the many experts around the world. In his response Paul De Lay, Director, Evidence, Monitoring and Policy Department, UNAIDS is of the opinion that the better health systems can only important to provide AIDS treatment and some care related services. However response to HIV and AIDS is beyond just treatment. It need much more than that such as working with population groups who are more at risk of getting HIV and enabling environment to reduce stigma. In other words better and exceptional response to HIV and AIDS can eventually strengthen public health systems. Professor Alan W. Whiteside also believes that HIV and AIDS are actually different than other diseases in many ways so it necessarily deserves to be treated exceptionally. This is just not matter of disease prevention and treatment, rather, it is more than that and also considered in as social problem. Persons with HIV and AIDS suffer many more than just getting ill. We actually still need to understand HIV epidemic. (*Lay, P. D., 2008*) and (*Whiteside, A.W., 2008*)

Kevin De Cock (Head HIV department WHO), during the June in a high level meeting is reported essentially saying that WHO has changed its mind on this: in Asia there will be no generalized epidemic. In a report published in The Independent, Sunday June 8, 2008 Jeremy Laurence quoted Kevin De Cock saying, "Understanding of the threat posed by the virus had changed. The threat is largely confined to some populations who are at increased risk, such as MSM, drug users and sex workers and their clients. AIDS is not a disease that affects the non-drug taking

heterosexual population even though we have been told that is was". Impact of HIV around the world is 'heterogeneous' and different from country to country and even from cities and regions within the one country. For example in United States of America, the rate of infection among men in Washington is well over 100 times higher than in North Dakota. Same is in India where HIV prevalence is more in some states like Manipur and Maharashtra. These differences are difficult to understand and explain. However, on June 11 a joint clarification was issued from WHO and UNAIDS as the correction to AIDS story in The Independent calling it misinterpretation. (Laurence, J., 2008)

The AEM is the main rationale to convince policymakers to take high risk groups seriously: "you may not care about IDU, but if you leave them infected, 'innocent' housewives and babies may get infected in the result". The recent re-evaluation of HIV epidemiology however indicates that Asian countries will not get generalised epidemics – so innocent housewives and babies are not really at risk as it was suggested before. However, communicating this is a tricky issue: maybe policy makers can now conclude that they can leave the IDUs, MSM, and other groups of population who are more at risk to suffer. Donors can conclude that AIDS funding is not needed any longer which is certainly not which is wanted for prevention of HIV around the world. This whole discussion can also reduce the perceived risk of acquiring HIV and AIDS leading ignorance of prevention measure such as condom use. (Wilson, D. and Das, D.T., 2008) and (Brown, T. and Peerapatanapokin, W., 2004)

6. RESPONSE TO HIV AND IDUs IN PAKISTAN

This chapter contains literature review and discussion about the response to HIV and AIDS in Pakistan in general and also IDU specific services within the country in the light of examples of evidence informed best practices internationally. Current access to treatment care and support for IDUs is also discussed.

6.1 Government response:

In year 1987 after first HIV cases were reported in Pakistan Federal Committee on AIDS (FCA) was formed. Later in 1990, Pakistan's Ministry of Health launched a National AIDS Prevention and Control Program (NACP) and Provincial AIDS Control Programs (PACPs). NACP gradually progressed to shift focus toward the community from its initial approach of only diagnosing the case came to hospitals. Objective of NACP is to respond effectively to HIV and AIDS and to provide treatment, care and support for all people living with HIV (PLHIV) including all affected by HIV and AIDS. This includes prevention of HIV, blood safety, STI prevention, surveillance, training of health staff, research. The NACP has been working as part of the government's general health program, and is supported by various donors from outside the country. *(MoH, 2008)*

Government is currently scaling up its response to HIV and AIDS to reduce the risk of a HIV transmission. Immediate attention is needed for the groups who are most at risk such as IDUs, Sex workers and MSM etc. Also needed is not only an increase in the service coverage but making services user-friendly for these key populations. *(Huma Kawar, 2005)*

Setting out the strategies and priorities for more effective response of HIV and AIDS, during year 2001, Government of Pakistan developed a national HIV and AIDS Strategic Framework (2001-2007). Recently government has already made the next National Strategic Framework (2007-2011) and also designed the future action plans. *(NACP, 2007)*

Both draft National AIDS policy and HIV and AIDS Law recommend the formation of a National AIDS Council which will be an important step towards the multisectoral national HIV and AIDS response in Pakistan.

Some implementing gaps still exist, such as basic administrative and financial management, and more at provincial level. Mobilizing resources and capacity for scaling up services to populations at risk are main challenges. *(NACP, 2008)*

6.2 Non-Governmental Organizations (NGOs) response:

More than fifty national and international NGOs are involved in HIV and AIDS response especially in awareness programs and in the care and support of PLHIV and AIDS. NGOs also work on prevention interventions targeting groups with high risk such as IDUs, Sex Workers, MSM and truck drivers etc. Most of these NGOs are members of Provincial HIV and AIDS Consortiums, which has been set up in all four of Pakistan's provinces for better coordination HIV and AIDS response. (*NACP, 2008*) and (*Rai, M. A. et al, 2007*)

Despite good efforts from NGOs in response of HIV and AIDS especially their reach to more at risk populations, still challenge remains less coverage. Efforts from NGOs are reaching less than fifteen percent of the vulnerable population. (*World Bank, 2007*)

6. 3 Donors response:

Some bilateral donors such as USAID, DIFID and EC are helping Pakistan in combating HIV and IDU interventions. CIDA is supporting NACP in HIV and AIDS Second Generation Surveillance Project (HASP) which includes both mapping and Individual Biological and Behavioural Surveillance (IBBS). (*MoH/NACP, 2007*)

The Technical Working Group set by NACP includes donors to assist the government in the strategic development of activities. The Technical Working group includes UNAIDS, WHO, UNICEF, UNFPA, UNDP, UNDCP, UNESCO, ILO, the World Bank (WB), national and provincial program managers, and representatives of NGOs.

In May, 2002, Department of International Development (DIFID) of United Kingdom signed a memorandum of understanding with GoP to support 'HIV/AIDS Prevention with Drug Harm Reduction in Pakistan (HAPDHRP) project'. HAPDHRP is the component of enhanced HIV and AIDS control program implemented under NACP and PACPs and involve ANF and MoNC as main partners. Project was contracted to Future Group and started services from April 2003 with the help of five local NGOs in four cities i.e. Karachi, Lahore, Peshawar and Quetta. Later after the outbreak of HIV among IDUs in Larkana, in June 2003, HAPDHRP project helped to support establishment of a Drop-in-Centre (DIC). This DIC is being run by a local NGO of Larkana and now a member of Asian Harm Reduction Network. According to NACP the prompt action taken from DIFID and other partners made possible the establishment and provision of these harm reduction services to IDUs in Larkana in within a four weeks time after the discovery of the HIV outbreak. The Futures Group wrapped up its work back in 2004 primarily because at that time the

World Bank supported Enhanced HIV/AIDS Control Program for the four provinces and Centre became operational. However, Futures group reached some milestones with its achievements, e.g. policy development with MoH and Ministry of Narcotics Control, establishing model Harm Reduction services, and capacity building. (*Azariah S, and Bokhari A, 2004*) and (*Futures Group, 2004*)

WB assisted the government's efforts through funding the second Social Action Program (1998-2003). Currently the Bank is providing US\$ 37.1 million, 75 percent of which is a no-interest credit and 25 percent of which is grant money. This aid is for helping country to scale up existing activities during the period of 2007 to 2011. The WB also emphasizes support for NGOs to do the targeted interventions for most at risk populations including IDUs. (*MoH, 2008*)

With the donor support, NACP is making significant progress in expansion coverage of programs focussing populations which are more at risk such as an IDU program in Punjab and service delivery packages for male and female sex workers in Sindh, Punjab and NWFP. (*World Bank, 2007*)

Development partners such as CIDA, DFID, USAID WB and UN agencies are working to support the government's program through the HIV and AIDS Prevention Projects. This help is focused to achieve objectives of National HIV and AIDS Strategic Framework 2007-2011. (*MoH, 2008*)

6.4 Harm Reduction (HR);

6.4.1 Back ground and definition:

In the year 1998, a UN General Assembly Special Session on the problem of drugs worldwide was conducted under the phrase "A drug-free world—we can do it". This session came up with a declaration mainly focusing the complete eradication of production and use of illicit drugs and was largely silent on the issue of HIV infection and other problems for people who are using drugs. Later it was recognized globally that prohibition is not the only option to reduce the problem of drug use and problems of drug users. In 2001 a major step was the first HIV/AIDS Special Session of the General Assembly (UNGASS). Unanimous declaration of 2001 declaration urges to ensure access to safe and sterile injection equipment for IDUs. UN agencies also developed guidance on sterile-syringe programs. In 2005, Methadone and Buprenorphine were added to WHO list of essential medicines. (*Csete, J. and Wolfe, D. 2008*)

Harm Reduction (HR) is a public health concept, aimed at reducing the risk of drug use and anti-drug policies of our society. A harm reduction strategy is a comprehensive approach to address the issues of drug use and drug policies. (*DPA Network, 2008*)

According to International Harm Reduction Association (IHRA), “the term harm reduction refers to policies, programs and projects which aim to reduce the health, social and economic harms associated with the use of psychoactive substances”. It is an evidence based and cost effective approach which benefits to the individual, community and society.

Most effective harm reduction strategies include the social and economic and legal aspects in a comprehensive approach. However, many countries lack the ability and/or the appropriate legislation. Harm Reduction Organizations, therefore, are trying for improvement through trainings of Service providers and law enforcement personnel, coupled with the advocacy for Policy and legal reforms. To achieve Long-lasting results of harm reduction, multi-sectoral response is needed from all the relevant government, as well as from the private sector. (*WHO, 2004*)

Various elements of harm reduction are quoted in literatures. World Health Organisation suggests 12 elements of harm reduction concept, including outreach approach, needle exchange programs and replacement therapy. (*WHO, 2005*)

Treating IDUs is more expensive especially if they become HIV positive, whereas, harm reduction programs are proven more cost effective. Research also shows that harm reduction programs has clearly contributed in reducing the harms of unsafe injecting and sexual behaviours including reduction of street crimes. By preventing financial and human losses, significant cost savings can be made for the countries. Harm reduction programs for IDUs are also cost effective because of preventing spread of Hepatitis C as well. (*Harold, A. and Pollack, 2001*)

6.4.2 HR, an international best practice:

Following the European Union (EU) policy, harm reduction is included as HIV prevention tool in drug strategy by the EU countries. The number of drug substitutions and needle exchange programs has expanded in the EU member countries. In The Netherlands, needle exchange programs for IDUs were started about 20 years back. Since the year 1970, the Netherlands has a drug policy based on the hypothesis that despite strict measures, it is impossible to completely eliminate drug use and drug addiction. Instead of being treated as criminals, drug users are seen as persons who are entitled to care and treatment. This resulted in a decrease in HIV infections in this group. In the year 2002, 174 new HIV cases were diagnoses among IDUs, where as this number reduced to only 29 in year 2005. One of reasons for the success of Dutch harm reduction programs is the involvement of former IDUs right from planning to implementation. (*MoFA, Netherlands, 2007*)

The effectiveness of harm reduction in the prevention of HIV infection among IDUs is proven in many countries. However, ongoing debates about the merits of harm reduction strategies make the situation complex. The basic philosophy of 'International Drug Control Framework' is that the worldwide supply of narcotic drugs should be limited to the amount required for medical and scientific purposes, and anything beyond that is illegal. United States is promoting abstaining from drug use, and has stopped the use of federal funds for the NSEP. They have, however, support for education programs about the risks of injecting drug use and sharing needles and treatment of drug addiction such as methadone therapy. Some other countries like, Australia, Brazil, Canada, China, Iran, Pakistan also consider abstinence as the ultimate solution of the drug use related issues. These countries however consider the effective implementation of NSEP and Methadone therapy and education/information as the tools of reduction of risk of acquiring HIV in the IDUs and its further spread. (*DIFID, 2005*)

There are many examples of good harm reduction programs in Asian countries which provide the evidence of success. Since the detection of first HIV cases in Manipur, the northeastern state of India, the rapid growth in HIV among IDUs was reported. Responding the issue Manipur State AIDS Control Society (MSACS) with the help of National AIDS Control Program (NACP) started an intervention targeting the risk groups 'Rapid Intervention and Care' (RIAC). Harm Reduction was kept core of RIAC. (*SASO-Alliance, 2007*)

Needle and syringe exchange programmes (NSEP) is one such program. NSEP was first launched as a pilot project in 1995. The main goal of NSEP is to prevent transmission of the HIV virus among IDUs from one another through the needles and syringes sharing. Initially, it was regarded as a controversial programme due to its apparent consent, the use of drugs. However, now NSEP is widely accepted and regarded as prevention tool for HIV. (*UNAIDS, 2008*)

Although, Manipur was the first state in India where harm reduction was initiated as HIV preventive approach for IDUs. However, only a few projects focused on behaviour change Communication (BCC), care and support, and treatment compliance initially. An increasing number of people continued become infected the HIV in the state. Situation need for a more comprehensive intervention focused on the drug use and HIV prevention, care, support and treatment. (*SASO-Alliance, 2007*)

To fill the gap of home and community based care and support, International HIV/AIDS Alliance in India, established partnership with Social Awareness Service Organization (SASO) in Manipur. Alliance and the SASO share a similar approach of active and meaningful participation of communities in the response to HIV and AIDS. Due to the harm reduction programs initiated by NACP, MSACS with the collaboration of

national and international NGOs the HIV infection among IDUs showed a clear decrease from a high level of 80% in 1997 to 24.1% in 2005. (UNAIDS, 2008) and (SASO-Alliance, 2007)

At present, harm reduction programs are being implemented throughout Iran by government and NGOs. Iran's policy is to reduce HIV prevalence among IDUs through the harm reduction programs. In the beginning Iran like many other countries, was adopting supply reduction policy, all forms of drug use was regarded as a criminal offence. During the mid 1990s HIV infections were seen increasing among IDUs especially among those who were in Jails due to drug use or drugs related charges leading to a progressive change in the policy. (Razzaghi, E. et al, 2006)

Close cooperation and common understanding between the Ministry of Health, the Prisons Department, judicial authorities, resulting in a policy shift. Civil society and NGOs played an important role through advocacy and implementing successful programs with the ability to reach the populations in need such as IDUs. This provided a way forward for an efficient harm reduction strategy in Iran during early 2000s. (Kelechi, O. et al, 2006)

'Triangular clinics' is an Iranian programme which is recognized as the evidence of best practices. Triangular clinics program is offering integrated services for the prevention and treatment of STIs and HIV and AIDS for injecting drug users. These clinics run by NGOs effectively reach the IDUs specially those who are in person. A model for a comprehensive harm reduction is being implemented in Iran containing NSEP, methadone substitution therapy, general medical care, providing voluntary HIV counselling and testing (VCT), Drop in Centers (DIC) and referral services. As part of a continuum of care services are extended to provision food, clothing, and other basic needs. (Razzaghi, E. et al, 2006)

6.5 Actual response to IDUs and HIV in Pakistan:

The concept of harm reduction was first introduced in Pakistan during early 1990s with a UNODC supported project in Karachi. However, due to lack of implementing experience and un acceptance at various levels initial projects could not last long and failed to provide expected results. In 1999, a research study conducted in Lahore by UNAIDS and UNODC showed high prevalence of Hepatitis C and needle sharing a common practice among IDUs. This alarming situation coupled with some international exposure on harm reduction of some key policy makers, resulted in gaining policy attention. With the financial and technical assistance of UNAIDS and UNODC, a DIC was established in Lahore by an NGO Nai Zindagi (New Life). Later in year 2000, two DICs were opened in Karachi by two different NGOs Pakistan Society and Marie Adelaide Habilitation Program. Initially there were issues of acceptance for all three

harm reduction projects but these DICs continued working cautiously with low profile. (Shazia, M. and Afsar, H. A., 2004)

In May 2002, under a Memorandum of Understanding (MoU) between economic affairs division of GoP and DIFID-United Kingdom, 'HIV/AIDS Prevention with Drug Harm Reduction in Pakistan (HAPDHRP) Project' was started. This MoU described NACP as the main institution within GoP and ANF of Ministry of Narcotic Control as main partner of the project. HAPDHRP project was contracted to Futures Group of Europe. Five National NGOs were contracted to provide the harm reduction services in all four provincial capitals Karachi, Lahore, Peshawar and Quetta. After the first reported outbreak of HIV among IDUs in Larkana, HAPDHRP project supported the establishment of DIC in Larkana. (Azariah, S. and Bokhari, A., 2004) and (Futures Group, 2004)

The Futures Group wrapped up its work way back in 2003-4 primarily because at that time with the World Bank support Enhanced HIV/AIDS Control Program for the four provinces and Centre became operational. In this programme Service Delivery Packages (SDPs) for vulnerable population groups including IDU, MSM (hijras included), FSWs and Prisoners was started. Harm reduction services under the auspices of SDPs were started in Punjab and Sindh. This support has ended June 2008. However, due to the findings of second generation surveillance and availability of unutilized funds the World Bank has given no cost extension to IDUs SDP till December 2008 in Sindh and Punjab while UNHCR is providing partial support to SDP in Quetta. Financial support of harm reduction program in Peshawar ended in June 30, 2008, however implementation NGO is running it with the help of partial funding adjustments. The next Enhanced HIV and AIDS Programme is going to start from 2009-13

Table 8: Current harm reduction programs in various cities of Pakistan

City	Implementing NGO
Karachi	Pakistan Society Al-Nijat Welfare Society
Lahore	Nai Zindagi Associates
Faisalabad	Nai Zindagi Associates
Multan	Nai Zindagi Associates
Peshawar	Dost Welfare Foundation
Sargodha	Nai Zindagi Associates
Quetta	Legend Society
Larkana	Community Development Network Forum

(NACP, MoH, 2008)

A pilot project focusing improvement of the current HIV prevention services for women injecting drug users, wives/spouses of the male injecting drug users and prisoners has started recently in April 2008. This

pilot project is launched by UNODC with the collaboration with ANF, NACP, and provincial prison department (Punjab province). US \$167,000 program is part of UNODC's Strategic Programme Framework for Pakistan 2007-2010 is aimed to provide services for 1,000 female IDUs, 5,000 wives/spouses IDUs, and 500 female prison inmates. There are an estimated 150,000 to 175,000 IDUs in the country, 50% of them are married. According to a study conducted in 2007; Most of the married IDUs often have unprotected sex with their wives, and 25 percent reported symptoms of sexually transmitted infections. In addition, 15% percent among wives of HIV positive IDUs were tested HIV positive. Majority of the wives of IDUs do not have knowledge of HIV transmission. (*Nai Zindagi, 2008*) and (*The News, 2008*)

Over all coverage of current needle exchange programmes is reported very low. At the moment the coverage is no more than 15-20 percent. The table 9 shows that even with average harm reduction programmes the prevalence of HIV has decreased in Karachi. The low coverage is rather crucial information. Especially given the Universal Access by 2010 targets that Pakistan has set itself as part of the UNAIDS global Universal Access initiative.

Table 9: HIV prevalence among IDUs in different rounds of second generation surveillance

City	Pilot 2004	Round 1 2005-6	Round 2 2006-7	Round 3 2008
Karachi	26% (104/395)	*	30.1% (120/399)	22.9% (93/405)
Hyderabad	**	25.4% (101/398)	29.8% (119/400)	30.4% (102/398)
Sukkur	**	19.2% (77/402)	5.3% (21/399)	*
Larkana	**	*	16.5% (66/399)	27.6% (110/398)

* Not included
(*NACP, MoH, 2008*)

6.6 Nai Zindagi HR programs, an evidence of success within Pakistan:

There are some good examples of harm reduction services in Pakistan. One example is the work of a National NGO Nai Zindagi (New Life) Trust, founded by a group of former drug users. In the past 18 years, it has grown into an organization that provides harm reduction services to more than five thousand drug users. Nai Zindagi programs are based on the principle that the drug use should not be taken isolated from other issues

such as poverty, social marginalization and illiteracy. As the drug use specially injecting drug use has proved links with HIV and AIDS, Nai Zindagi is seeking solutions by providing people with better opportunities so they no longer need to rely on drugs to cope with their problems. The staffs being themselves former drug users have a close empathy with the target group and bring positive impact on the client's motivation. Evidence shows that once drug users gain awareness of them, and rebuilt their confidence, they are able to do more for themselves. (*Nai Zindagi, 2008*)

Nai Zindagi activities show that the implementation of harm reduction programmes, coupled with the prevention of HIV among IDUs, can have a significant positive impact. These kinds of interventions can reduce the harms of injecting drug use including prevention of HIV and AIDS among IDUs and other vulnerable groups. Support and participation of former drug users, especially in the role of peer educators and outreach workers, is an important factor for successful intervention. Equally important is the participation of family members, and various social groups and obtained support from government agencies, including police in Nai Zindagi programmes. Organization's positive and non judgmental approach towards drug users and encourage their participation in the program as peer educators and outreach workers. (*MoFA Netherlands, 2007*)

6.7 Main components of IDU interventions in Pakistan:

Components of harm reduction services in Pakistan are in line with comprehensive package for IDUs from UNAIDS. However, there are still no drugs substitution programs and ARVs for IDUs in the country. (*Altaf, A. et al, 2008*)

6.7.1 Outreach services and Peer Education:

Outreach strategies are conducted for providing information and services to the hard to reach population and establishing contacts among IDUs and health care services. Outreach activities target IDUs from individual level to communities (IDU) for counseling. The various forms of interventions aimed at IDUs have been implemented through outreach services, including peer education programs, bleach and condom distribution and needle exchange. IDUs networks provide advantage for outreach program with the added impact on peer group and ability of coping with social Norms. (*Nai Zindagi, 2008*)

Peer Education programs for IDUs are proved effective in reducing the risk behaviors. NSEP through Peer Educators are more effective in reaching new clients. Employing former IDUs as peer educators have also played an important role in the process of intervention. (*Ghauri, A.K. et al, 2002*)

6.7.2 Drop-in-Centres and Mobile harm reduction units:

There are two types of harm reduction services in Pakistan i.e. establishment of Drop-in-Centres (DIC) and other is through mobile harm reduction units. DIC is static harm reduction service outlet while the mobile harm reduction unit is a fully equipped vehicle that reaches the clients where they are. Both DIC and Mobile unit have their own pros and cons. Some of these found in literature are;

Advantages and limitations of DICs

- Accessible for a longer period of time
- Built-in space for social services
- Convenient for BCC activities
- Convenient for VCT
- Dependence on out reach workers for client motivation and referral
- Regularity of clients remain uncertain

Advantages and limitations of Mobile Harm Reduction Units

- Accessibility to the areas where DIC services are not available
- Effective penetration to the populations in need
- Reaches to wider areas and community
- More visible resulting increased trust
- Short hours of operation at particular site resulting gaps in NSEP
- Community support is needed for social services
- Difficult in conducting BCC activities especially on roadside.

(Futures Group, 2004) and (Nai Zindagi, 2008)

Combination of both DICs and mobile units are essential for effective harm reduction services for IDUs. DICs provide platform for various services including needle and syringe exchange, BCC and some social services. Where as, out reach services have ability to reach where they are most needed.

6.7.3 Counselling on Risk reduction and behaviour change:

Awareness is being built among IDUs about issues of drug use, injecting and other risky behaviours. Counselling is done to drug users, their families and communities individual and group basis. Counselling and experience sharing by other former IDU staff and provision of supportive therapy to drug users and their families is considered useful tool for creating hope and reduction in risky behaviours. (*Emmanuel, F. and Fatima, M., 2008*)

6.7.4 Needle and syringe exchange program (NSEP):

There is strong evidence that increasing the availability of needles and syringes and NSEP within the harm reduction services reduce the needle sharing among IDUs resulting reduced risk of HIV transmission. Considering this NSEPs are major component of harm reduction services in Pakistan. Sterilised sealed disposable syringes are provided preferably in exchange of used syringes by the IDUs to ensure that sharing take place. However provision of new syringes even without exchange is being promoted to ensure that client has new syringe at the time of need. Sprit swabs and adhesive sterile bandages are also provided. (*FHI, 2007*) and (*Futures Group, 2004*)

6.7.5 Detoxification and Rehabilitation:

Most NGOs have their own detoxification and rehabilitation treatment facilities. Motivated clients are referred to detoxification and rehabilitation services. The drug users are brought in detoxification for usually 10 days at any detoxification and rehabilitation treatment facilities of NGO where they keep him and provide him some oral substitute (Buperonorphine-Tamgesic). Client is 'cleaned' for 10 days and left to go to family however; their families some times are not keen on taking them back and rather hate them. They in most of cases have no job and social circle is not willing to accept them. That takes them again back to drugs. IDUs and their families are prepared for detoxification and maintenance of abstinence. (*Futures Group, 2004*)

6.7.6 Primary Health Care and referral Services:

IDUs generally have less access to health services. Health services (including life saving) are often denied to them mainly due to their life style forced by poverty, stigma fear of law. Basic health care services within harm reduction programs in Pakistan include abscess management, Wound Care and Anti-septic Dressings. Primary health care services also include referral to detoxification and/or other services if needed. Medical assessments and checks are often performed by a trained medical doctor. (*Futures Group, 2004*)

6.7.7 Promotion and Provision of Condoms:

Condoms are made available within harm reduction facilities added with counselling for safer sexual practices. Purpose of condom provision in harm reduction services is to prevent transmission of HIV and other STIs among IDUs. To avoid reluctances for the use of condoms confidentiality is assured and maintained. (*Ghauri, A.K. et al, 2002*) and (*Nai Zindagi, 2008*)

6.7.8 Syndromic STI management:

Services of STI management are being provided on Syndromic Management Principles of WHO. Comprehensive management of STI involves:

- Reducing the incidence of STI by preventing transmission through the promotion of safer sex, making condoms available
- Reducing the prevalence of STI through early and effective case detection, treatment, partner notification, surveillance and monitoring

No doubt comprehensive management of STI is appropriate approach however, due to stigma attached with IDUs and STIs itself make it difficult for IDUs to actually avail these services (*Emmanuel, F. and Fatima, M., 2008*)

6.7.9 Voluntary Counselling and Testing (VCT):

VCT is important component of SDPs under Enhanced HIV/AIDS Control Program. About 16 VCT centres are established in big cities throughout the country and are aimed to provide services to all populations with high risk including IDUs. Some VCT centres are established in hospitals and some are community based. Selected local NGOs are responsible for VCT services. Complete confidentiality is maintained about the test results and identity of person tested. HIV testing is optional and pre and post test counselling is done to minimise possible emotional sufferings. However, VCT services for IDUs are only being provided in DICs and mobile harm reduction units. (*Ikram, N., 2007*)

6.7.10 Mobilization and motivation of clients:

IDUs are been mobilized from their street drug scene and motivated to avail harm reduction services. Motivation is being done to create effective interaction. Former IDUs as peer educators are highly effective in mobilizing and motivating IDUs to use harm reduction services. (*Ghauri, A.K. et al, 2002*)

6.7.11 Social Services:

Majority of IDUs live in poor hygienic conditions. IDUs are encouraged to avail offered services. Services may include Bathing, Washing, Sleeping, Resting, Food and Refreshment etc. DIC usually is the best platform for provision of social services. (*Futures Group, 2004*)

6.7.12 Health Education:

Health education is focused on prevention from HIV Hepatitis C, STIs and other harms related to injecting drug use. Health education is provided at centres and also during outreach activities. (*Futures Group, 2004*)

6.8 Access to treatment, care and support:

It is clearly mentioned in National HIV and AIDS Policy document that "People with HIV and AIDS will have the same access to health services as other citizens of Pakistan". "Health services will work towards achieving increased access to anti-retroviral therapies and consistent access to the medicines that prevent or treat opportunistic infections. Anti-retroviral therapy will be provided free of charge to PLHIV and will be integrated into a comprehensive care and support program". (*MOH/NACP, 2007*)

Dr Arshad Altaf, Surveillance Officer HASP, during personal communication said that ARV centres are established in each provincial capital and Islamabad from where AIDS patients get the medicines and these centres are also equipped with viral load and CD4 count. ARVs are being provided free of cost at these centres through the Global Fund against AIDS, TB and Malaria (GFATM) support. Global Fund procures these medicines from India and through NACP are distributed to all ARV centres. However, as a policy, government is not providing ARVs to IDUs because of reasons such as systemic side effects of ARVs (as majority have hepatitis B or C meaning damaged liver) and compliance. It is against human rights and universal access but that was decided prior to the launch of ARV program by all stake holders.

According to Dr Saleem Azam of Pakistan Society, "even former drug users in Sindh are being denied AIDS treatment at government health centers, making harm-reduction more difficult". Pakistan Society is an NGO which runs two rehabilitation centers with the funding from European Commission. Drug users should not be denied their right of getting AIDS treatment and on other hand some studies show the evidence of reduced risk heterosexual HIV transmission with the use of ARVs. Programs need to be designed to address the issues of adherence. (*Wilson, D. P. et al, 2008*) and (*Ebrahim, Z., 2007*)

7. CONCLUSION

It is important to determine the current trends of the HIV epidemic in Pakistan. It becomes more important in a situation where the country is confronting the epidemic among IDUs and has already moved from nascent to concentrated level of epidemic. Additionally MSM are rapidly emerging as the second highest risk group with repeated HIV cases reported among them. Looking at the history of stages of HIV epidemic in Pakistan and a high prevalence of HIV among IDUs across many cities the situation suggests an epidemiological transition.

Asian Epidemic Model shows that in countries where HIV prevalence remain low for many years, rise in HIV infection among IDUs can potentially start HIV epidemic in other most at risk populations and then into low risk groups. In many countries across the world HIV epidemic initially started among IDUs and this group later acted as a bridge to reach to the heterosexuals and general population. Highest rates of HIV infection in most of the Asian countries are being found among IDU Groups, however many experts still stress that sex work as the main factor of HIV epidemic in Asia. Reason might be that there are more people involved in buying and selling sex compared to the number of people who inject drugs. Thus is increasing the probability HIV infections transmission through sexual contacts as compared to injecting drug use. It may be noted that there is consensus that the level of commercial sex, mainly percentage of individuals buying sex, and number of clients per Sex Worker per day determines how high the HIV epidemic will peak in the general population. But, most often in Asia a general population epidemic is sparked off by a small but high epidemic curve among IDUs.

In recent debates and publications some HIV experts have different opinions about the threat of generalized epidemic in the Asian countries. Two widely discussed arguments are existence of real threat of generalized HIV transmission in Asian countries (especially heterosexual transmission) and requirement of exceptional response towards HIV and AIDS. Experts have various arguments; however, need of prevention programs such as harm reduction is still emphasized.

Issue of injecting drug use is not solitary. Poverty, social system, government policies and various deprivations are linked with that. Large number of IDUs in Pakistan use synthetic pharmacological drugs or combinations. This dimension of injecting drug use pattern is encouraged by the easy availability of those drugs from pharmacies without any prescription. Data from second generation surveillance and other research studies conducted in Pakistan documents high levels of unsafe behaviors such as sharing contaminated needles among IDUs, unsafe sexual activities and instances of rapid explosive spreading of HIV through injection drug use from negligible levels to higher levels.

Prevention programs among IDUs need to give more attention and resources to comprehensive harm reduction approaches, including needle exchange, drug substitution and rehabilitation. The main reason for the less effective and very limited response to the issue of HIV and drug use related services is that the policy makers are still unwilling to consider HIV among IDUs as 'a real public health problem'. 'Centers of Excellence' have been created in provinces and in the federal capital for STI and HIV and AIDS management and treatment, but again they have not yet become true functional facilities. There is weak mechanism of government support and political commitment towards HIV and AIDS, despite the 'expended response' one of the government priorities. That also reflects the deeply rooted stigma. The defective health system lacking adequate infrastructure, skilled staff, poor coordination, accountability and monitoring and evaluation shows lesser commitment from leadership.

There are significant challenges convincing policy and decision makers that;

- HIV and AIDS in general and concentrated epidemic among IDUs needs special attention
- Drug use and injecting drug use is a socio-psychological problem and need serious actions for reducing associated harms
- Working around health care structure to make services easily available and accessible to population groups such as IDUs and PLHIV free from stigma discrimination.

Knowledge about concentrated epidemic in some populations such as IDUs and MSM provide Pakistan a window of opportunity to design prevention and treatment programs for not only IDUs but other most at risk groups. The epidemic potential in Pakistan depends greatly on implementing effective harm reduction programs now, and health services which address to needs of IDUs are required. There are examples of good harm reduction programs within the country that shows that right things are being done but coverage is much less than the actual need.

8. RECOMMENDATIONS

8.1 Recommendations for Ministry of Health:

- The Ministry of Health should play leadership role on bringing HIV and AIDS on the priority agenda and to obtain political commitment within the government and other relevant ministries.
- Working with Anti Narcotic Force to increase acceptance of harm reduction programs and also control the supply and availability of drugs on streets.
- Introduction of methadone programs on pilot basis initially and depending on their success at larger scale.
- Formation of Pakistan's Multisectoral Federal AIDS Council with meaningful representation of PLHIV, NGOs, other departments and development partners.
- Involvement of existing health workers from public and private sector for the spread of HIV and AIDS information may be useful as an entry point. This may be the handy approach to provide awareness about HIV and AIDS to general population and can be done by mainstreaming HIV within health department.
- Control over the counter sale of synthetic pharmacological drugs such as Avil, Tamgesic or Restoril which are used as substitute by IDUs once heroin is not easily available.
- Reinforcement of blood safety and infection control mechanisms.
- Formalising referral systems with services without discriminating IDUs.
- Recognize that access of IDUS to evidence informed prevention programs as a human rights issue.
- No discrimination on the basis of drug use and HIV status should be applied in government sector medical institutions.
- Ministry of Health, epidemiologists, managers within NACP and PACPs, as well as researchers need to understand the epidemic in the country, as a basis for making program decisions.
- Legislation should be done in order to respond the comprehensive service needs of IDUs in both public and private health care sectors.

Recommendations for National AIDS Control Program:

- Proactive, targeted and effective response to IDUs and HIV related issues at all levels should be started by looking at evidence informed interventions globally and nationally.
- To respond concentrated HIV epidemic in Pakistan, successful harm reduction interventions of some NGOs need attention for wide scale adaptation and replication.
- Expansion of interventions for IDUs aiming to increase safe behaviours and to improved availability of NSEP and STI services.
- Appropriate availability of ARVs for IDUs who are in need is stressed because lower viral load will ultimately reduce the risk of further disease transmission.
- Advocacy with religious leaders and local communities to reduce stigma and discrimination on HIV and AIDS and drug use.
- Response should focus on trend of the epidemic and service needs of IDUs, with involvement of different partners and stakeholders, including government departments, national and international NGOs, the UN system, donors, civil society and people in need as partners.
- Inclusion of human rights groups for monitoring instances of stigma and discrimination faced by IDUs and PLHIV.
- Standard treatment protocol should be developed for the treatment of IDUs who are AIDS patients with the support and monitoring seeking to mainstream rights based approach.
- Efforts of raising awareness on injecting drug use HIV and AIDS are needed to be scaled up.
- Utilization of media for raising awareness and sensitization about HIV, AIDS and Injecting drug use/users can be projected as solution not problem
- The Behavioural Change Communication component of the programs should also be contracted out to mass media companies.
- Pakistan requires regional collaboration and the sharing of national and international best practice experiences, such as harm reduction programs would benefit from coordination with similar initiatives in Iran and India considering the cultural context.

Recommendations for NGOs:

- Increased capacity and mechanisms in governance, transparency accountability is essential.
- Capacity of implementation of programs and coordination need to be enhanced.
- The prevention programmes should reach IDUs as HIV is reported high among this group and also look at the contexts that make IDUs vulnerable.
- A better understanding of the drivers of and trends of epidemic could help achieving better results in preventing future HIV infections to occur and providing needed care and treatment.
- The rehabilitation programmes should be organized in such a manner that they look after the person once he leaves rehabilitation facility.
- VCT services should be provided adapting national/international guidelines.
- Rights based approach should be mainstreamed in the response, concerning confidentiality.
- Intensive advocacy with political leadership is required to make them realise the HIV among IDUs as public health problem and for support in response.
- Facilitate comprehensive policy dialogue, involving politicians, public departments, NGO sector and civil society.

8.4 Recommendations for Donors:

- Fill financing gaps for HIV prevention and other health care services, especially for neglected groups such as IDUs.
- Support national monitoring and evaluation and health systems strengthening for better implementations and impact assessments.
- To measure the behaviours of populations at risk and HIV epidemic among them, support for the continuation of expanded Surveillance inclusive of smaller cities is needed in country.
- Duplicating efforts maybe avoided e.g. HIV second generation surveillance was in progress RTI study was also planned at the some same sites and with the same groups.

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ACRONYMS

AEM	Asian Epidemic Model
AIDS	Acquired Immune Deficiency Syndrome
AJK	Azad Jammu and Kashmir
ANI	Asian News International
ANF	Anti Narcotic Force
ARV	Anti Retroviral
BCC	Behaviour Change Communication
BMJ	British Medical Journal
CIDA	Canadian International Development Agency
DFID	Department of International Development
DIC	Drop-in-Centre
DPA	Drug Policy Alliance
EC	European Commission
EMRO	Eastern Mediterranean Regional Office
FATA	Federally Administrated Tribal Areas
FCA	Federal Committee on AIDS
FHI	Family Health International
FSW	Female Sex Worker
GDP	Gross Domestic Product
GoP	Government of Pakistan
GYN	Global Youth Network
HAPDHRP	HIV/AIDS Prevention with Drug Harm Reduction in Pakistan
HASP	HIV/AIDS Surveillance Project
HIV	Human Immunodeficiency Virus
HR	Harm Reduction
HRG	High Risk Group
IBBS	Integrated Behavioural and Biological Surveillance
IDU	Injecting Drug User
IHRA	International Harm Reduction Association
ILO	International Labour Organization
KIT	Royal Tropical Institute
MAP	Monitoring the AIDS Pandemic
MoFA	Ministry of Foreign Affairs
MoH	Ministry of Health
MoNC	Ministry of Narcotic Control
MoU	Memorandum of Understanding
MSACS	Manipur State AIDS Control Society
MSM	Male who have Sex with Male
NACP	National AIDS Control program
NFHS	National Family Health Survey
NGO	Non Governmental Organization
NHMIS	National Health Management Information System
NSEP	Needle Syringe Exchange Program
NWFP	North West Frontier Province

PACP	Provincial AIDS Control Program
PLHIV	Person Living with HIV
RIAC	Rapid Intervention and Care
SASO	Social Awareness Service Organization
SDP	Service Delivery Package
STI	Sexually Transmitted Infection
UN	United Nations
UNAIDS	United Nations Joint Programme on HIV/AIDS
UNDCP	United Nations International Drug Control Programme
UNDP	United Nations Development Program
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
UNODC	United Nations Office on Drugs and Crime
US	United States
VCT	Voluntary Counselling and Testing
WB	World Bank
WHO	World Health Organization

ABSTRACT:

Drug abuse is increasingly becoming a major social and public health problem in Pakistan, specially injecting drug use. Poverty and geographical location of Pakistan also makes the country most vulnerable. However, it is often overshadowed by other issues the country is facing. Until the mid-1990s popular mode of taking drugs was inhalation. Due to the heroin supply disruptions and many other reasons drug users began to shift from inhalation and other routes to injecting, also synthetic drugs along with pharmaceutical combinations easily available over the counter. The issue of injecting drug use has direct links with poverty, social system, government policies and deprivations. More and more young people are falling, or converted to injecting drug use. Stigma and confinements faced by IDUs make the situation even more difficult for them and for any effective response.

Pakistan has moved from low-level to a concentrated level HIV epidemic, primarily because of the high prevalence among injection drug users (IDUs). After the first reported outbreak of HIV among this group in 2003, it continues to increase reached to other cities. 31% prevalence of HIV is reported in Karachi during 2007. Evidence informs about modest interaction between some high risk groups including IDUs. For example IDUs reportedly paid to have sex with female, male or hijra sex worker. This kind of interaction can potentially transmit HIV infection from high risk groups to low risk groups such as the general population. It is highly possible that an IDU can pass on the infection to an FSW, MSW who can possible have sex with a married man and this way the transmission dynamics take place.

While there are harm reduction programmes in the country providing needle/syringe exchange and other services. However, main challenges in reducing risk of HIV transmission among IDUs and preventing further spread are to achieve the desired behaviour change along with increase coverage. At the moment the coverage is no more than 15-20%. There are still no drug substitution programmes in the country and no ARVs for HIV positive IDUs.

Concentrated HIV epidemic among IDUs show shift of trend of the epidemic in Pakistan. Policies should be made focused on appropriate coverage of harm reduction programs, increasing health awareness and making services available and accessible for the people in need such as IDUs. Drug substitution programs and ARV services for IDUs need special attention from government, NGOs and donors. Policies should be made to address challenges that programs can face in Pakistani context.

Key Words: HIV, AIDS, Pakistan, IDUs, Transmission, Concentrated epidemic, NACP, Gender, Drug use, STIs, Harm reduction, and combinations.

INTRODUCTION:

After completing graduation from medical collage and one year internship in 1994, I started working as a Medical Officer in Health Department. Later I worked with various organizations including Aga Khan University (AKU), Interact Worldwide Pakistan (IWP) and The Asia Foundation Pakistan (TAF). In the year 2003, first outbreak of HIV among IDUs in Pakistan was reported from Larkana, a city near my native village. This was the moment when first time I felt the presence of HIV epidemic very close. During 2004, while working with Interact Worldwide and Pakistan National AIDS Consortium, I got the opportunity to work with Sindh AIDS Control Program and NGOs working with populations which are considered more at risk. I was also given an opportunity to work in HIV/AIDS second generation surveillance project. Here I realised the importance of service needs for these groups specially Injecting Drug Users (IDUs). Latest upsurge of HIV among IDUs in many cities across Pakistan make me to thing about situation and current responses to IDUs and HIV and AIDS among them. This research provided me opportunity to look the situations and response towards the issue of IDUs and HIV and also to look the evidence of best practices around the world and within the country.

Injecting is becoming the most preferred way of drug use in Pakistan since last ten years, smoking and inhalation were the common methods of drug use before late 1990s. Drug users inject not only heroin but also injectable opiates (pain killers), tranquilizers and combinations. Main reason of that shift in drug use behaviour is considered due to low cost of combination of opiates, antihistamines and tranquilizers as compared with cost of heroin and on other hand these pharmaceutical drugs are easily available. *(ANF/MoNC, UNESCAP, 2008)*

According to estimates there are around 150,000 to 175,000 Injecting Drug Users (IDUs) in Pakistan and most of them are street based and of younger age groups. Recent studies reveal that due to their behaviour of sharing unclean needles and syringes there is high prevalence of Hepatitis C and HIV among them. *(UNODC, 2008)*

In Pakistan much stigma is associated with IDUs and they are also often being criminalized due to drug use. If the drug user is woman then stigma increases many folds. About 50% of IDUs in Pakistan are being reported married. There is lack of awareness about HIV among them and also services are not user friendly for IDUs. *(Nai Zindigi, 2008)*

It becomes important to know the current trends of HIV epidemic, risk factors and current responses especially in the situation, where country is already facing concentrated epidemic among IDUs. Also important is to have knowledge about focus of responses on risk factors and drivers of HIV among populations with increased risk such as IDUs. *(Wilson, D. and Das, D.T., 2008)* and *(Altaf, A. et al, 2008)*

Purpose of the study:

Pakistan is going through an epidemiological transition of HIV and AIDS epidemic. In the mid nineties majority of reported cases were Pakistani labourers deported from Gulf countries. This scenario changes after the first reported outbreak of HIV infection among injection drug users (IDUs) in Larkana in June, 2003. Since then there has been a rapid spread of this infection among IDUs. According to the data of Sindh AIDS Control Programme till December 2003 HIV infection among IDUs was reported to be 0.4% (3/720) however, by the end of 2004 the findings of second generation surveillance indicated that the infection rate had surged to 26% in the largest city Karachi. (*NACP-HASP, 2007*)

The rapidly increasing HIV epidemic among IDUs in Pakistan, interlink between various populations with high risk behaviours like IDUs and sex workers. High risk injecting and sexual behaviours, high levels of other STIs, and low levels of HIV knowledge, provides a clear warning of the potential for a serious HIV epidemic in Pakistan. Lack of services focusing special needs of IDU population groups, added with deeply rooted stigma against drug use and IDUs within various sectors of society can potentially fuel situation. The HIV infection can go beyond IDU groups with increased risk to spread among men and women from lower risk groups such as wives of IDUs and clients of sex workers. Here the knowledge about shifting trend of epidemic and also the analysis of risk factors and available services become important to design preventive strategies. (*Haque, N. et Al, 2006*)

1. BACKGROUND INFORMATION ABOUT PAKISTAN

1.1 Geography and demography:

Pakistan emerged as an independent state 61 years ago on 14th August 1947, as a result of the division of former British India. Pakistan has total boundary 6,774 km and coastline of 1,046 km. Pakistan covers 7, 96,095 km esquire. Population of country according to population census conducted in 1998 was 132.35 million however current projections show it around 160 million with the female male ratio of 50:50. (*GoP, 2008*)

The country is a federation of four provinces: Sindh, Punjab, North West Frontier Province (NWFP) and Baluchistan. In addition the federal government is responsible for the Federally Administrated Tribal Areas (FATA), The Northern Areas and Azad Jammu and Kashmir (AJK).

Approximately 95% of total population is Muslim and the teachings of Islam play a significant role in shaping the social and cultural values of the Pakistani society. (*Statistics division GoP, 2006*).

1.2 Health status and health system:

Pakistan has made significant progress in improving health services. Statistics show better health indicators of country presently then ever. For example, in early 1970s, the infant mortality rate was 139 per 1,000 live births which is 77 per 1,000 live births currently. The life expectancy has increased from 57.4 years for women and 57 years for men up to 66.4 years and 64.4 years for women and men respectively. Improvements can also be seen in reduction of population growth and immunization coverage etc. Despite improvement, mortality and morbidity rates are still very high in Pakistan. (*NHMIS/MoH, 2008*)

Along with the GoP there is an important role of private sector to expand the availability and quality of services. After an increase of 16% during last decade total expenditure on health is 2.1% of GDP where as 76% of all health expenditure goes out of pocket. Health services such as public, private, formal, informal are available in the country with the variation of access, and utilization mainly due to factors such as socio-cultural and demographic differences, and also due to economical and political conditions. (*Babar, T. S. and Hatcher, J., 2004*)

Main challenges for Pakistan in health care service to address such issues include;

- Shortage of trained health workers
- Health infrastructure underdeveloped in far-flung districts

- Public sector doctors establishing their own private practice
- Poor-quality water and sanitation
- Insufficient family planning
- Negative political interference
- Insufficient logistical support for medicines (supply) and prevention programs
- Lack of accountability (also of patients)
- Lack of openness (in both government policy and society)
- Gender inequalities

(Fatimi, Z. and Avan, I., 2002) and (USAID, 2008)

Table 1: Coverage with primary health care services indicators

1	Population with access to local health services, total (%)	96
2	Population with access to local health services, urban (%)	100
3	Population with access to local health services, rural (%)	92
4	Contraceptive prevalence rate (%)	34
5	Antenatal care coverage (%)	41
6	Births attended by skilled health personnel	19

(WHO EMRO, 2008)

Table 2: Health status indicators

1	Total life expectancy at birth (total years)	64
2	Newborns with low birth weight (%)	37
3	Children underweight (%)	30
4	Infant mortality rate (per 1000 live births)	77.0
5	Under five mortality rate (per 1000 live births)	98.0
6	Maternal mortality ratio (per 10000 live births)	350

(WHO EMRO, 2008)

Despite increase in life expectancy of both male and female and claimed better coverage of health services, fewer births are being attended by skilled personals. High infant and under five mortality rates, and high maternal mortality ratio indicates the need of lot much still to be done to improve the health status and health services in Pakistan.

1.3 HIV and AIDS in Pakistan:

Pakistan still has low level of HIV epidemic in the general population. According to National AIDS Control Program (NACP), Ministry of Health (MoH) there are 3,099 known HIV positive cases in the country. Province-wise distribution is given in the table 3;

Table 3: Province wise reported HIV and AIDS cases

Province	HIV cases	With AIDS
Sindh	1733	108
Punjab	643	79
NWFP	444	62
Balochistan	279	16
Total	3,099	265

(NACP/MoH, data till March 2007)

However, NACP/MoH using WHO/UNAIDS Epiforecast model the estimated number of HIV cases is thought to be approximately 80,000 to 100,000 with the prevalence of 0.1% among the general population. Data reveals that most of the infections occurred between age of 20-44 years with males out numbering females by the ratio of 7:1. HIV cases are reported from all provinces and regions of country but majority of cases is from largest city and country's biggest port and business capital Karachi.

2. PROBLEM STATEMENT, STUDY QUESTIONS AND METHODOLOGY

2.1 Problem statement:

Findings from second generation surveillance and published literature suggest that Pakistan has progressed from nascent to concentrated level of HIV epidemic. HIV prevalence is consistently more than five percent among one population with high risk behaviours which is injection drug users (IDUs) (*Altaf, A. et al, 2007 and Vermund, S.H. et al, 2006*). Since last few years some shift in trend of epidemic can be noticed. Growing number of IDUs are being tested positive. High prevalence of HIV in IDUs as compared to other three high risk groups can be seen in the table 4 below;

Table 4: High prevalence of HIV in IDUs as compared to other three high risk groups

City/Reference	IDUs (n=400 in each city)	MSWs (n=200 in each city)	FSWs (n=400 in each city)	Hijras¹ (n=200 in each city)
Karachi: NACP/FHI	23%	4%	0%	2%
Karachi: IBBS Pilot (HASP/NACP)	26%	7%	0%	0%
Lahore: NACP/FHI	0.5%	0%	0.5%	0.5%
Lahore IBBS Round 1 (HASP/NACP)	3.5%	0%	0%	0.5%
Rawalpindi: IBBS Pilot (HASP/NACP)	0.5%	0%	0%	0%
Quetta: IBBS Round 1 (HASP/NACP)	9.5%	0%	0.7%	0.5%
Hyderabad: IBBS Round 1 (HASP/NACP)	25.4%	0%	0%	1%
Sukkur: IBBS Round 1 (HASP/NACP)	19.4%	0%	0%	0.1%
Peshawar: IBBS Round 1 (HASP/NACP)	0.7%	0%	0%	1%
Faisalabad: IBBS Round 1 (HASP/NACP)	13%	0%	0%	0.5%

(NACP/FHI, 2005), (NACP, 2004) and (NACP/HASP, 2007)

¹ "In Pakistan the large majority of transgendered individuals have a social identity called 'Hijras'. 'Hijras' are biological male but have a female gender identity" (NACP/HASP, 2007)

“Recent changes in epidemiologic data regarding HIV prevalence in Pakistan suggest alarm. Unpublished data indicate a recent upsurge in HIV prevalence from surveys of IDUs all around the nation”. (*Vermund, S.H. et al, 2006*).

HIV is now documented routinely among IDUs not only in Karachi but in all other big cities of the country, including Rawalpindi, Lahore, Hyderabad, Sukkur and Sargodha. Therefore it has become important to analyse the service needs of IDUs for HIV prevention. (*Shah, S.A. et al 2004*).

2.2 Study questions:

This research study is intended to find the replies of following question;

1. Can high prevalence of Drug Use in country and HIV among IDUs move Pakistan towards HIV epidemic in general population?
2. What are the health needs of IDUs in context of HIV, and how can HIV prevention and care services to IDUs be improved?

2.3 Methodology:

Literature review and both published and unpublished data will be used to reach the conclusion. Health system response plus some work done by NGOs and donors will also be seen. Analysis of policy, implementation strategies will also be reviewed to see the current effect of those interventions and future impact. Review of literature available on Medline and KIT library and internet will be done. National reports will also be included in discussion.

Key Words:

HIV, AIDS, Pakistan, IDUs, Transmission, Concentrated epidemic, NACP, Gender, Drug use, STIs, Harm reduction and combinations.

To achieve the objectives of research, the study question number one will be answered in chapter number four and five. Literature review and discussion under chapter four contains situation analysis of drug use, injecting drug use and evolution of HIV epidemic in Pakistan. While, chapter five responds the link between IDUs and HIV by looking at IDUs as bridge population, various determinants which can make IDUs vulnerable for acquiring HIV infection. Asian epidemic model and current debate among HIV experts is also discussed in chapter number five.

Answer of the study question number two is explored in chapter number six by literature review and discussion about general response to HIV and

AIDS in Pakistan. IDU specific HIV services needs in Pakistan are reviewed and discussed in light of evidence informed international best practices and actual national response. Situation of access of IDUs to treatment care and support is also discussed and analysed in chapter number six to find answer of the study question number two.

2.3.1 Limitations of the study:

Despite the careful efforts there might be some potential limitations in methodology and content of this study. Whole study is conducted on the basis of literature review without collection and use of primary data. Due to the lack of available comparative data for triangulation some inconsistencies might have occurred. During analysis some reports from various organisations and some media/news articles also have been used which can potentially have biases. Some data was difficult to find from the Pakistan especially about actual STIs and HIV services for IDUs. Therefore careful interpretation is needed.

This study looks at the HIV situation among IDUs in Pakistan and also contains the analysis of available services and evidence from international best practices. However, service needs of IDUs are more seen in the context of HIV and AIDS and less in the other aspects, i.e. priority service needs of IDUs can also be other than HIV and AIDS services. Responding to HIV services needs of IDUs not only requires the health system based services from both government and non government sectors, but exploration of deeply rooted micro and macro environmental factors is also needed. Being a medical doctor, researcher might have not touched these issues in much detail.

Findings of this study will indicate the HIV service needs of IDUs and will also provide policy recommendations for planning future strategies in this regard.

3. OBJECTIVES OF THE STUDY:

This research is intended for Ministry of Health (MoH) National AIDS Control Program (NACP), Non Government Organisations (NGOs) and donors to;

- Provide basic information about epidemic such as levels and trends of HIV infection and actual response in Pakistan for planning interventions focussing IDUs.
- Provide information for decision makers to help them understand the impact of prevention activities among IDUs leading to informed policies and program development.

4. SITUATION OF DRUG ADDICTION, INJECTING DRUG USE AND HIV IN PAKISTAN

This chapter will describe the situation of drug addiction, injecting drug use and also the history of HIV and AIDS in Pakistan in context of trends of epidemic in starting from late 80s till 2008.

4.1 Drug addiction:

Drug addiction has effected and is affecting people and societies throughout the world. According to the World Drug Report 2005 more than 200 million people have used drugs at least once in the last one year. This becomes about 5% of adult population up to 45 years of age. Drug addiction fuels the problems in individual's life by effecting their health and some times security and respect also. Linkage between drug use and crime can make societies and governments unstable resulting in underdevelopment. Poverty and geographic location of Pakistan makes it one of the most vulnerable countries. (*UNODC, 2005*)

Drug addiction is increasingly becoming a major social and public health problem in Pakistan; however, it is often overshadowed by several other issues that the country is facing. In 1980s after the influx of Afghan refugees escaping Soviet invasion brought this menace of drugs with them. Afghan refugees started doing drug business in the country. As a result there was significant increase in local consumption of heroin in Pakistan but till mid nineties inhalation was the popular mode. (*ANF/MoNC, 2008*)

It is also believed that as the laws and culture of the country do not allow alcohol use which also pushes individuals to other drugs. Speaking in National assembly on February 8 2007, a parliamentarian Ali Akbar Wains called government to at least relax if not lift the ban on alcohol. According to Mr. Wains, "more and more youngsters were getting addicted to drugs like heroin and morphine in the absence of free availability of alcoholic drinks". (*ANI, 2007*)

Drug addiction touches the most vulnerable among the communities, majority of them belong to poor, unemployed, in and out of school/collage youth and also affected are their families. Major factors which are considered to drive individuals specially youth to drug addiction are;

- Peer pressure
- Social taboos
- Economic frustrations
- Lack of recreational places/opportunities

However, drug addiction has entered in Pakistan without much distinguishing between social class, level of education and status of employment. (*Alam, S., 2002*)

To find statistics about drug problems in Pakistan is very difficult because most of the data found is old and not able to provide clear picture. Experts estimate that number of addicts of all kinds of drugs is rising rapidly. Four to five million drug users are estimated countrywide with the annual increase of 7%. People living in big cities are worst affected by drug addiction where drug addicts can be seen openly on the streets using drugs. (*Baloch, S., 2008*)

4.2 Injecting drug use:

Issue of injecting drug use is relatively new in Pakistan and somehow overshadowed by other problems. Injecting drug started to emerge in Pakistan during late nineties. The situation became worse after the second Afghan war in 2002 when heroin supply was interrupted and majority of those drug users who were on inhalation started shifting towards injections and using pharmacological combinations. Using pharmaceutical synthetic drugs is new and some how unique dimension of injecting drug use in Pakistan. Growing numbers of youth are falling in or converted to injecting drugs. According to recent estimates the number of street based IDUs in Pakistan is more than 150, 000. (*UNODC/ANF, 2006*)

Issue of injecting drug use is more being seen in isolation which however has actually direct links with poverty, social system, government policies and deprivations due to many reasons. Some studies conducted on synthetic drugs and chronic heroin users reveal that factors associated with route transitions are;

- Young age
- Homelessness
- Friendship with IDU
- Easy availability
- Cost of the drug
- Usage of combination of more than one drug.

Three main factors came out are low cost of the drug, (easy) availability and use of combination of more than one drug. However, shift from

inhalation or other routes of drug use to injecting route varies in different cities and areas. Shift towards injecting drug use in the NWFP province and northern territories is lesser than other provinces. There might be some cultural reason along with peer influences, Habit, quality of heroin, Price of heroin or other drugs. (Agha, A. et al, 2003) and (Emmanuel, F. and Attarad, A., 2006)

Pakistan feature "professional injectors" or 'street doctors' who inject drugs to drug users and receive payment from them. These street doctors or professional injectors are reported to reuse the needle for multiple IDUs. However, according to second generation surveillance data 73% IDUs reported never receiving injection from street doctors. (NACP/HASP, 2007)

4.3 Stages of HIV epidemic in Pakistan:

4.3.1 Early stage (1980s):

In the year 1986, an African seaman was diagnosed as AIDS patient and become the first officially recognized case of AIDS in Pakistan. In the year 1987, a first Pakistani citizen was also reported as AIDS patient in Lahore. (Nanan, D.J. et al, 2000). Majority of cases identified in these early years were reported from coastal city and business capital Karachi, the largest city of Pakistan, and many of them were non Pakistanis. It was commonly believed at that time that AIDS is the disease of foreigners and that Pakistanis can not acquire it due to their strong social, religious and cultural traditions. This public belief was later challenged when some Pakistani men, women and children were also found HIV positive during late 1980s.

4.3.2 Second stage (1990-1995):

During this stage of epidemic, an increasing number of Pakistanis living or travelling abroad became infected with HIV and then returned to Pakistan. There was wide spread ignorance about HIV and AIDS, resulting lack of knowledge and information either about the routes of infection or about ways to prevent transmission. Some of these HIV positive men subsequently infected their wives who, in some cases passed the infection to their children. The first recognized transmission of HIV infection through breast feeding in Pakistan was reported from Rawalpindi in the year 1993. (Shah, S.A. et al, 1999).

4.3.3 Third stage (1995-1999):

In the mid to late 1990s, cases of HIV and AIDS increasingly began to appear in the populations such as sex workers, injecting drug users and jail inmates. The proliferation of infection among these populations was

assumed to have facilitated at least to some extent a further in general population. During this stage of Pakistan’s HIV epidemic it was recognized that transport workers and migrant labourers were bridging to spread the infection along the major trade and transport routes within the country. During this period it was thought that inadequate sterilization techniques along with inappropriate use of medical equipment are contributing factors for the increasing HIV epidemic. (*World Bank, 2005*)

4.3.4 Fourth stage (2000-2008):

In this fourth stage of epidemic in Pakistan HIV and AIDS cases start to appear from various parts of country and general population. Some most at risk population groups such as large number of IDUs was found HIV positive during mid 2000s. (*Emmanuel, F. and Fatima, M. 2008*)

In June, 2003, first alarming out break of HIV among IDUs was reported from Larkana. Larkana is a smaller city with 0.7 million inhabitants in southern Sindh province of Pakistan. An IDU prisoner at a local jail was tested positive which triggered local authorities to test more IDUs. Total 175 IDUs were tested during same month out of them 19 were found HIV positive. According to Sindh AIDS Control Program (SACP), this number reached to 45 within the time of eight months. (*Shah, S. A. and Altaf, A., 2004*)

After the outbreak of HIV among IDUs in Larkana in 2003, surveys and studies were conducted in some other cities of Pakistan where HIV prevalence among IDUs was still found very low. However, just after two years data from second generation surveillance and other studies provide the evidence of the development of concentrated epidemic among IDUs. (*MoH/NACP, 2007*)

Table 5: Cities of Pakistan with reported HIV outbreaks sero-surveillance surveys in 2005

City	% HIV +ve	No. of IDUs (estimated)	No. of HIV +ve IDUs (estimated)
Karachi	26.5	12282	3255
Sukkur	19.6	2234	439
Hyderabad	18.3	1003	184
Faisalabad	13.2	5244	695
Quetta	9.7	155	15
Sargodha	9.5	1050	100
Lahore	2.5	2560	64
Sialkot	1.2	550	7

(*MoH/NACP, 2007*)

In the table 5, we can see the high prevalence of HIV in the most of the cities across Pakistan. However, the situation of HIV among many cities in Pakistan is yet not known.

5. LINK BETWEEN HIV AND INJECTING DRUG USERS:

This chapter includes the analysis of the link between HIV and IDUs. Literature review and discussion is about IDUs bridging HIV, determinants of HIV among IDUs including internal and environmental and contextual influencing factors. Chapter also include the Asian epidemic model and current debate about HIV epidemic in Asian countries which is relevant to Pakistan.

5.1 IDUs bridging HIV:

Worldwide 10% of HIV cases are credited to IDUs. Involvement of IDUs in HIV epidemic is documented in different countries across the world. Increasing numbers among IDUs are being reported HIV positive throughout the world especially in Asia. Drug injection is being considered as the strongest initial driver of HIV infection in many parts of Asian continent. Needle containing HIV infected blood can transmit the virus directly into the blood. Therefore, sharing of needle between an infected and uninfected person is an efficient ways of spreading HIV among people. (*Aceijas, C et al, 2004*) and (*Map report, 2005*)

There is evidence that in the parts where there is rise in HIV infection among IDUs, rise of HIV rates is also seen in other populations with high risk due to their unsafe behaviors. Infections which have spread among IDUs have then been transmitted sexually to people who do not inject. For example, increase in HIV prevalence is reported among the sex workers in some parts of China and Vietnam after the rise of HIV among IDUs in both parts. It is believed that IDUs transmit the seed infection to most sexual infections. (*Map report, 2005*)

To find out the reply of how injecting drug use can fuels the HIV and AIDS epidemics one have to explore relationship between injecting drug use and HIV which is quite complex. However, literature highlights some areas of concern. The Injecting drug users usually adopt a pattern of injecting in the groups and sharing drugs and injecting equipment with each other. Spread of HIV among IDUs can be seen differently then the spread of infection through sexual route. HIV prevalence rise sharply among the people who share injecting equipment as it is most efficient way of transmitting infection. Growing numbers of IDUs share their needles and syringes which are usually unclean and already used. (*MAP Report, 2005*)

Alike several other countries in Asia, Pakistan also possess high prevalence of HIV among IDUs with the potential of expanding into other high at risk populations such as male who have sex with male (MSM) and female sex workers (FSWs). The presence and interlinking of IDUs and other populations with high risk, indicate the potential for a rapid spread

of HIV within those populations and its further expansion to the general population through 'bridging groups'. Low levels of HIV knowledge and prevention methods potentially can make the situation. (NACP/HASP, 2007)

According to the NACP-HASP National Report of round two of surveillance in Pakistan there is modest interaction between some high risk groups including IDUs. For example 22.2% IDUs in 12 cities reportedly paid to have commercial sex with FSWs; similarly 13.2% IDUs paid male or hijra sex worker to have commercial sex. This kind of interaction along with needle sharing and low use of condoms is an indicator of the potential of transmission of HIV infection from high risk groups to low risk groups such as the general population. It is highly possible that an IDU can pass on the infection to an FSW who is quite possible to have sex with a married man and this way the transmission dynamics takes place.

Table 6: Selected sexual behaviour patterns among IDUs

Practice/Behaviour	IDUs (n=4,039)
Age of first sexual intercourse	18.1 ± 3.6
Never had sex	16.2%
Regular female sex partner (last 6 months)	
• Sexually active with regular female sex partner	45.7%
• Condom use at last sex	16.5%
• Always used a condom with regular partner	9.9%
• Never used a condom with regular partner	40.7%
Had sex with a FSW (last 6 months)	26.6%
• Mean number of paid female partners (past 6 months)	3.6 ± 4.
• 5Condom use in last sex with paid female sexual partner	20.9%
Had sex with a MSW or HSW (last 6 months)	13.2%
• Condom used in last sex with MSW or HSW	12.9%
• Lubricant use in last sex with MSW or HSW	54.2%
Exchanged sex for drugs or money (last 6 months)	19.6%

(NACP/HASP, 2007)

As majority of IDUs are male therefore usually most of them do not get engaged in sex work, how ever many of them are clients of sex workers. Even if any IDU acquires HIV infection sexually form any sex worker, that infection can easily be transmitted to other IDU efficiently by needle sharing and further to other sex workers or regular sexual partners via sex. (Saidel, T. J. 2003)

5.2 Determinants of HIV in relation with IDUs:

Determinants of HIV infection among IDUs are complex. Some of these factors are at individual level and others in lie in the context of various sectors of society. For assessing vulnerability to HIV and AIDS in IDUs not

only require to study the individual behaviours, but also the impacts of both micro-environment and macro-environment factors. (WHO, 2005)

Research studies suggest that IDUs are at increased risk of getting HIV and Hepatitis C infections mainly because of;

- Individual risk behaviours;
 - Sharing of injecting equipment
 - Sexual behaviors

- Community norms and context (when peer groups or community norms have impact on behaviours of IDUs)
 - Stigma and discrimination against IDUs
 - Confinement and incarceration of IDUs by law enforcement agencies

(MAP Report, 2005) and (WHO, 2005)

5.2.1 Needle and syringe sharing:

Needle sharing is most efficient way of HIV transmitting. In all other forms body tissue works as a shield of protection, however, by injecting needle facilitates virus to enable the shield of body tissue and makes it reach directly to blood flow. When individual is newly HIV infected the viral load in the blood remains usually high because body takes time to produce anti bodies against the virus. During the state of high viraemia infection could be transferred to other person quickly. Unsafe injection therefore can pass infection to the people more rapidly. (Map report, 2005)

In Pakistan, sharing of needles and syringe varies considerably between the cities. Data from second generation surveillance conducted in 12 cities of all four provinces show that higher proportion of IDUs in Sukkur, Multan, Gujranwala, Quetta and Lahore reported either sharing their used needle/syringe with other IDU or injecting with used needle/syringe by other IDU. Proportion of IDUs sharing needles/syringes during last injecting practice ranges from as low as 3% to as high as 63%. However, some cross-sectional studies from Pakistan report 80% IDUs share the needle and syringes. (Altaf, A. et al, 2007) and (NACP/HASP, 2007)

5.2.2 HIV related knowledge among IDUs:

It is generally believed that IDUs indulge in unsafe injecting and sexual practices because of their lack of knowledge about HIV and AIDS. However knowledge gap is not that much among the IDUs in Asia. 70% of IDUs in Sichuan province in China and nearly 100% in some parts of India, Indonesia, Kazakhstan, Malaysia and Nepal knew that sharing

injection could spread HIV. Such knowledge however usually not brings in safe behaviours among IDUs. (*Map report, 2005*)

Knowledge level about HIV among Pakistani IDUs is not much high but never the less too low. About 71% and 67% IDUs knows about sexual and needle sharing modes of HIV transmission respectively. 44% IDUs have knowledge that condom use can prevent HIV transmission and 53% have knowledge that clean needles can prevent HIV transmission. Table 6 shows the findings from second generation surveillance.

Table 7: HIV related knowledge and program participation among IDUs

Knowledge area	IDUs (n=4,039)
Ever heard of HIV and/or AIDS	74.0%
Healthy looking person can have HIV/AIDS*	58.1%
HIV transmitted by sexual intercourse*	71.9%
HIV transmitted by sharp instruments/needles and syringes*	67.7%
HIV transmitted by blood transfusion*	11.1%
Condoms can prevent HIV transmission*	44.3%
Sexual abstinence to prevent HIV transmission*	57.4%
Clean syringes/needles to prevent HIV transmission*	53.9%
Self perception of risk for HIV *	31.1%
Know where to receive HIV test*	11.6%
Have been tested for HI V*	6.1%
Knows test results*	2.2%
Awareness of STIs	55.3%
Self-reported STI in past 6 months *	10.4%
Received treatment for reported STI *	62.5%
Ever heard of HIV prevention programs	30.6%
Participated in HIV program s	15.6%

*Valid percentages (i.e., of those of "ever heard of HIV and/or AIDS")
(*NACP/HASP, 2007*)

5.2.3 Sexual behaviour of IDUs:

Evidence from some countries that drug use especially injecting drug use decreases sexual activity. That was reason to believe that people who inject the drugs are not very sexually active. However, data from many Asian countries report sexual activities among IDU populations. IDUs are found involved in sexual relations with their spouses/regular partners and they also buy and sell the sex. If the increased number of people who do not inject will establish sexual relations with IDUs, then HIV virus which was primarily acquired from needle/syringe sharing can sexually spread among non-injecting populations. That is how sexual activities of IDUs especially buying and selling sex make the deadly combination of high risk behaviours. (*UNODC/GYN, 2004*) and (*Map report, 2005*)

Reported low condom use and trend of injecting drugs among sex workers makes situation even worse. Evidence of IDUs buying sex is available from many countries. On other side, a study in Bangladesh shows that about 4% of FSWs are IDUs and 20% have IDUs as clients out of them 5% to 10% are having regular IDU clients. (*Map report, 2005*)

Except IDUs other population group considered most at risk of acquiring HIV and potential driver for spread in Asia is Male having sex with male (MSM). Many of the first reported HIV and AIDS cases across the world were from MSM populations. It is said that the epidemics driven by IDUs and by MSM overlap i.e. many MSM are being reported injecting drugs across the Asia and on other hand use of certain drugs such as amphetamines, can also increase the risk of transmission during unprotected anal sex. (*Map report, 2005*)

Cross sectional studies conducted with the IDUs linked with the harm reduction programs in, Lahore, Faisalabad and Sargodha show the link between high risk injecting and sexual behaviours among IDUs. About 50% of IDUs in Pakistan are married and most of them continue unprotected sexual relations with their wives. 80% reported that condom was not used in their last sexual contact. 15% of wives of HIV positive IDUs were tested positive in three cities of Punjab province and 25% of the respondents reported symptoms of sexually transmitted infection during past six months. (*Nai Zindagi, 2008*). Other study conducted in Karachi shows that 58.3% IDUs reported paid for the sex and 64% reported never using condom. Prevalence of Hepatitis C and Syphilis among IDUs was reported 94.3% and 13.1% respectively. (*Altaf, A., et al, 2007*)

5.2.4 Sigma and confinement:

Stigma and confinement is the contextual factor which put IDUs in risk of getting HIV and deny their service needs. Drug taking is a strongly disapproved socially. In many countries drug taking is a criminal act and punishable under law. In Pakistan, the use of intoxicant drugs is a cultural taboo and drug users are discriminated and considered sinner. When IDUs are women, the stigma and vulnerability they face is even more. Social exclusion and criminalization associated with drug use makes the IDUs hard to reach. (*Nai Zindagi, 2008*) and (*UNODC/UNAIDS, 2008*)

IDUs often receive moralistic or judgmental attitudes and responses perceiving them as an outcaste. Legal and ethical factors are also creating challenges to the enabling environment. For example, the illegal nature of drug use can lead young people to hide their drug consumption. Despite the risk that injecting can transmit HIV through sharing of needle/syringe they can adopt injecting behavior to avoid even smell of smoke. This all also keep IDUs away from the services they need. On other hand health

services are not widely available for IDUs, existing services are either not sufficient coverage wise or IDUs are being discriminated there resulting denial of services to them. Policies to make services user friendly for IDUs are not being made or implemented, this also shows the stigma against IDUs as Policymakers and other authorities do not want to be frank about HIV or IDUs. (*Deany, P., 2000*).

There is evidence that IDUs report relatively high rates of arrest and imprisonment, which is of great significance for HIV prevention programming. Though, relevant data is limited and difficult to access however there is literature shows link between imprisonment and the increased risk of needle sharing and unprotected anal sex. According to Alia Kashif of Buisness Recorder, "75 percent of prisoners in the country are incarcerated for drug related offences". (*Kashif, A., 2007*) and (*Agha, A. et al, 2003*)

In Indonesian capital Jakarta sentinel surveillance in 1999 showed 47% HIV prevalence among IDUs. After that, prevalence of HIV among prisoners in prisons of the city also started to rise and reached to 25% till year 2002. In Thailand HIV prevalence among IDUs who were never imprisoned was reported 20%, IDUs who remained in prison but not report injecting was 38% and among those IDUs who remained in prisons and reported injecting HIV rate was 49%. Findings of various studies can only suggest possibility of getting HIV inside the prison however do not provide enough evidence. (*Dolan, K. et al, 2007*) and (*Map Report, 2005*)

5.3 Asian epidemic model and current debate:

"The Asian Epidemic Model (AEM) has been designed to reflect the primary groups and transmission modes driving HIV transmission in Asia". AEM reveals that despite fact of low condom use and less awareness, HIV rates remain low for more than two decades in various countries. However, with the rise of HIV among IDUs, epidemic may get "kick start" very quickly (*Brown, T. and Peerapatanapokin, W., 2004*).

However, this is a hot topic of discussion right now that;

- Is there any real threat of generalized HIV epidemic in Asian countries?
- Do HIV and AIDS still require or ever required an exceptional response?

In some recent studies it is shown that the risk of HIV transmission in heterosexual partnerships, in the presence of the recommended effective treatment is low, but not zero and risk of transmission in male to male partnerships is comparatively higher but that is also with many contacts. However, condom use is still being emphasized because there may be

substantial increase in the incidence of HIV infection if condom use is declined due to perceptions of lower risk. (*Wilson, D. P. et al, 2008*)

In year 2005-2006 in India, National Family Health Survey – 3 (NFHS) have already shown lower nationwide HIV prevalence among adult population. Estimates in 2006 show decrease in HIV from 5.1 million to 2.5 million. These estimates are made on the basis of NFHS-3 data and data from antenatal clinics. However, considered bias of these estimates may be under representation of populations most at risk. Other bias may be that the women who use antenatal services are generally higher in education and knowledge level as compared to those women who do not or can not avail these services. (*Arora, P. et al, 2008*)

In his reviews published in British Medical Journal (BMJ) in 2007 and 2008 Roger England, chairman, Health Systems Workshop, Grenada, has criticised the exceptionality HIV and AIDS is being given globally in the area of health . According to him due to exceptionality of HIV and AIDS rest whole health system is compromised, and people around the world suffer. Countries can not get required support and attention to provide health services delivery to their people which they need. (*England, R., 2007 and 2008*)

In response of Roger England, series of arguments has started among the many experts around the world. In his response Paul De Lay, Director, Evidence, Monitoring and Policy Department, UNAIDS is of the opinion that the better health systems can only important to provide AIDS treatment and some care related services. However response to HIV and AIDS is beyond just treatment. It need much more than that such as working with population groups who are more at risk of getting HIV and enabling environment to reduce stigma. In other words better and exceptional response to HIV and AIDS can eventually strengthen public health systems. Professor Alan W. Whiteside also believes that HIV and AIDS are actually different than other diseases in many ways so it necessarily deserves to be treated exceptionally. This is just not matter of disease prevention and treatment, rather, it is more than that and also considered in as social problem. Persons with HIV and AIDS suffer many more than just getting ill. We actually still need to understand HIV epidemic. (*Lay, P. D., 2008*) and (*Whiteside, A.W., 2008*)

Kevin De Cock (Head HIV department WHO), during the June in a high level meeting is reported essentially saying that WHO has changed its mind on this: in Asia there will be no generalized epidemic. In a report published in The Independent, Sunday June 8, 2008 Jeremy Laurence quoted Kevin De Cock saying, "Understanding of the threat posed by the virus had changed. The threat is largely confined to some populations who are at increased risk, such as MSM, drug users and sex workers and their clients. AIDS is not a disease that affects the non-drug taking

heterosexual population even though we have been told that is was". Impact of HIV around the world is 'heterogeneous' and different from country to country and even from cities and regions within the one country. For example in United States of America, the rate of infection among men in Washington is well over 100 times higher than in North Dakota. Same is in India where HIV prevalence is more in some states like Manipur and Maharashtra. These differences are difficult to understand and explain. However, on June 11 a joint clarification was issued from WHO and UNAIDS as the correction to AIDS story in The Independent calling it misinterpretation. (*Laurence, J., 2008*)

The AEM is the main rationale to convince policymakers to take high risk groups seriously: "you may not care about IDU, but if you leave them infected, 'innocent' housewives and babies may get infected in the result". The recent re-evaluation of HIV epidemiology however indicates that Asian countries will not get generalised epidemics – so innocent housewives and babies are not really at risk as it was suggested before. However, communicating this is a tricky issue: maybe policy makers can now conclude that they can leave the IDUs, MSM, and other groups of population who are more at risk to suffer. Donors can conclude that AIDS funding is not needed any longer which is certainly not which is wanted for prevention of HIV around the world. This whole discussion can also reduce the perceived risk of acquiring HIV and AIDS leading ignorance of prevention measure such as condom use. (*Wilson, D. and Das, D.T., 2008*) and (*Brown, T. and Peerapatanapokin, W., 2004*)

6. RESPONSE TO HIV AND IDUs IN PAKISTAN

This chapter contains literature review and discussion about the response to HIV and AIDS in Pakistan in general and also IDU specific services within the country in the light of examples of evidence informed best practices internationally. Current access to treatment care and support for IDUs is also discussed.

6.1 Government response:

In year 1987 after first HIV cases were reported in Pakistan Federal Committee on AIDS (FCA) was formed. Later in 1990, Pakistan's Ministry of Health launched a National AIDS Prevention and Control Program (NACP) and Provincial AIDS Control Programs (PACPs). NACP gradually progressed to shift focus toward the community from its initial approach of only diagnosing the case came to hospitals. Objective of NACP is to respond effectively to HIV and AIDS and to provide treatment, care and support for all people living with HIV (PLHIV) including all affected by HIV and AIDS. This includes prevention of HIV, blood safety, STI prevention, surveillance, training of health staff, research. The NACP has been working as part of the government's general health program, and is supported by various donors from outside the country. *(MoH, 2008)*

Government is currently scaling up its response to HIV and AIDS to reduce the risk of a HIV transmission. Immediate attention is needed for the groups who are most at risk such as IDUs, Sex workers and MSM etc. Also needed is not only an increase in the service coverage but making services user-friendly for these key populations. *(Huma Kawar, 2005)*

Setting out the strategies and priorities for more effective response of HIV and AIDS, during year 2001, Government of Pakistan developed a national HIV and AIDS Strategic Framework (2001-2007). Recently government has already made the next National Strategic Framework (2007-2011) and also designed the future action plans. *(NACP, 2007)*

Both draft National AIDS policy and HIV and AIDS Law recommend the formation of a National AIDS Council which will be an important step towards the multisectoral national HIV and AIDS response in Pakistan.

Some implementing gaps still exist, such as basic administrative and financial management, and more at provincial level. Mobilizing resources and capacity for scaling up services to populations at risk are main challenges. *(NACP, 2008)*

6.2 Non-Governmental Organizations (NGOs) response:

More than fifty national and international NGOs are involved in HIV and AIDS response especially in awareness programs and in the care and support of PLHIV and AIDS. NGOs also work on prevention interventions targeting groups with high risk such as IDUs, Sex Workers, MSM and truck drivers etc. Most of these NGOs are members of Provincial HIV and AIDS Consortiums, which has been set up in all four of Pakistan's provinces for better coordination HIV and AIDS response. (*NACP, 2008*) and (*Rai, M. A. et al, 2007*)

Despite good efforts from NGOs in response of HIV and AIDS especially their reach to more at risk populations, still challenge remains less coverage. Efforts from NGOs are reaching less than fifteen percent of the vulnerable population. (*World Bank, 2007*)

6. 3 Donors response:

Some bilateral donors such as USAID, DIFID and EC are helping Pakistan in combating HIV and IDU interventions. CIDA is supporting NACP in HIV and AIDS Second Generation Surveillance Project (HASP) which includes both mapping and Individual Biological and Behavioural Surveillance (IBBS). (*MoH/NACP, 2007*)

The Technical Working Group set by NACP includes donors to assist the government in the strategic development of activities. The Technical Working group includes UNAIDS, WHO, UNICEF, UNFPA, UNDP, UNDCP, UNESCO, ILO, the World Bank (WB), national and provincial program managers, and representatives of NGOs.

In May, 2002, Department of International Development (DIFID) of United Kingdom signed a memorandum of understanding with GoP to support 'HIV/AIDS Prevention with Drug Harm Reduction in Pakistan (HAPDHRP) project'. HAPDHRP is the component of enhanced HIV and AIDS control program implemented under NACP and PACPs and involve ANF and MoNC as main partners. Project was contracted to Future Group and started services from April 2003 with the help of five local NGOs in four cities i.e. Karachi, Lahore, Peshawar and Quetta. Later after the outbreak of HIV among IDUs in Larkana, in June 2003, HAPDHRP project helped to support establishment of a Drop-in-Centre (DIC). This DIC is being run by a local NGO of Larkana and now a member of Asian Harm Reduction Network. According to NACP the prompt action taken from DIFID and other partners made possible the establishment and provision of these harm reduction services to IDUs in Larkana in within a four weeks time after the discovery of the HIV outbreak. The Futures Group wrapped up its work back in 2004 primarily because at that time the

World Bank supported Enhanced HIV/AIDS Control Program for the four provinces and Centre became operational. However, Futures group reached some milestones with its achievements, e.g. policy development with MoH and Ministry of Narcotics Control, establishing model Harm Reduction services, and capacity building. (*Azariah S, and Bokhari A, 2004*) and (*Futures Group, 2004*)

WB assisted the government's efforts through funding the second Social Action Program (1998-2003). Currently the Bank is providing US\$ 37.1 million, 75 percent of which is a no-interest credit and 25 percent of which is grant money. This aid is for helping country to scale up existing activities during the period of 2007 to 2011. The WB also emphasizes support for NGOs to do the targeted interventions for most at risk populations including IDUs. (*MoH, 2008*)

With the donor support, NACP is making significant progress in expansion coverage of programs focussing populations which are more at risk such as an IDU program in Punjab and service delivery packages for male and female sex workers in Sindh, Punjab and NWFP. (*World Bank, 2007*)

Development partners such as CIDA, DFID, USAID WB and UN agencies are working to support the government's program through the HIV and AIDS Prevention Projects. This help is focused to achieve objectives of National HIV and AIDS Strategic Framework 2007-2011. (*MoH, 2008*)

6.4 Harm Reduction (HR);

6.4.1 Back ground and definition:

In the year 1998, a UN General Assembly Special Session on the problem of drugs worldwide was conducted under the phrase "A drug-free world—we can do it". This session came up with a declaration mainly focusing the complete eradication of production and use of illicit drugs and was largely silent on the issue of HIV infection and other problems for people who are using drugs. Later it was recognized globally that prohibition is not the only option to reduce the problem of drug use and problems of drug users. In 2001 a major step was the first HIV/AIDS Special Session of the General Assembly (UNGASS). Unanimous declaration of 2001 declaration urges to ensure access to safe and sterile injection equipment for IDUs. UN agencies also developed guidance on sterile-syringe programs. In 2005, Methadone and Buprenorphine were added to WHO list of essential medicines. (*Csete, J. and Wolfe, D. 2008*)

Harm Reduction (HR) is a public health concept, aimed at reducing the risk of drug use and anti-drug policies of our society. A harm reduction strategy is a comprehensive approach to address the issues of drug use and drug policies. (*DPA Network, 2008*)

According to International Harm Reduction Association (IHRA), “the term harm reduction refers to policies, programs and projects which aim to reduce the health, social and economic harms associated with the use of psychoactive substances”. It is an evidence based and cost effective approach which benefits to the individual, community and society.

Most effective harm reduction strategies include the social and economic and legal aspects in a comprehensive approach. However, many countries lack the ability and/or the appropriate legislation. Harm Reduction Organizations, therefore, are trying for improvement through trainings of Service providers and law enforcement personnel, coupled with the advocacy for Policy and legal reforms. To achieve Long-lasting results of harm reduction, multi-sectoral response is needed from all the relevant government, as well as from the private sector. (*WHO, 2004*)

Various elements of harm reduction are quoted in literatures. World Health Organisation suggests 12 elements of harm reduction concept, including outreach approach, needle exchange programs and replacement therapy. (*WHO, 2005*)

Treating IDUs is more expensive especially if they become HIV positive, whereas, harm reduction programs are proven more cost effective. Research also shows that harm reduction programs has clearly contributed in reducing the harms of unsafe injecting and sexual behaviours including reduction of street crimes. By preventing financial and human losses, significant cost savings can be made for the countries. Harm reduction programs for IDUs are also cost effective because of preventing spread of Hepatitis C as well. (*Harold, A. and Pollack, 2001*)

6.4.2 HR, an international best practice:

Following the European Union (EU) policy, harm reduction is included as HIV prevention tool in drug strategy by the EU countries. The number of drug substitutions and needle exchange programs has expanded in the EU member countries. In The Netherlands, needle exchange programs for IDUs were started about 20 years back. Since the year 1970, the Netherlands has a drug policy based on the hypothesis that despite strict measures, it is impossible to completely eliminate drug use and drug addiction. Instead of being treated as criminals, drug users are seen as persons who are entitled to care and treatment. This resulted in a decrease in HIV infections in this group. In the year 2002, 174 new HIV cases were diagnoses among IDUs, where as this number reduced to only 29 in year 2005. One of reasons for the success of Dutch harm reduction programs is the involvement of former IDUs right from planning to implementation. (*MoFA, Netherlands, 2007*)

The effectiveness of harm reduction in the prevention of HIV infection among IDUs is proven in many countries. However, ongoing debates about the merits of harm reduction strategies make the situation complex. The basic philosophy of 'International Drug Control Framework' is that the worldwide supply of narcotic drugs should be limited to the amount required for medical and scientific purposes, and anything beyond that is illegal. United States is promoting abstaining from drug use, and has stopped the use of federal funds for the NSEP. They have, however, support for education programs about the risks of injecting drug use and sharing needles and treatment of drug addiction such as methadone therapy. Some other countries like, Australia, Brazil, Canada, China, Iran, Pakistan also consider abstinence as the ultimate solution of the drug use related issues. These countries however consider the effective implementation of NSEP and Methadone therapy and education/information as the tools of reduction of risk of acquiring HIV in the IDUs and its further spread. (*DIFID, 2005*)

There are many examples of good harm reduction programs in Asian countries which provide the evidence of success. Since the detection of first HIV cases in Manipur, the northeastern state of India, the rapid growth in HIV among IDUs was reported. Responding the issue Manipur State AIDS Control Society (MSACS) with the help of National AIDS Control Program (NACP) started an intervention targeting the risk groups 'Rapid Intervention and Care' (RIAC). Harm Reduction was kept core of RIAC. (*SASO-Alliance, 2007*)

Needle and syringe exchange programmes (NSEP) is one such program. NSEP was first launched as a pilot project in 1995. The main goal of NSEP is to prevent transmission of the HIV virus among IDUs from one another through the needles and syringes sharing. Initially, it was regarded as a controversial programme due to its apparent consent, the use of drugs. However, now NSEP is widely accepted and regarded as prevention tool for HIV. (*UNAIDS, 2008*)

Although, Manipur was the first state in India where harm reduction was initiated as HIV preventive approach for IDUs. However, only a few projects focused on behaviour change Communication (BCC), care and support, and treatment compliance initially. An increasing number of people continued become infected the HIV in the state. Situation need for a more comprehensive intervention focused on the drug use and HIV prevention, care, support and treatment. (*SASO-Alliance, 2007*)

To fill the gap of home and community based care and support, International HIV/AIDS Alliance in India, established partnership with Social Awareness Service Organization (SASO) in Manipur. Alliance and the SASO share a similar approach of active and meaningful participation of communities in the response to HIV and AIDS. Due to the harm reduction programs initiated by NACP, MSACS with the collaboration of

national and international NGOs the HIV infection among IDUs showed a clear decrease from a high level of 80% in 1997 to 24.1% in 2005. (UNAIDS, 2008) and (SASO-Alliance, 2007)

At present, harm reduction programs are being implemented throughout Iran by government and NGOs. Iran's policy is to reduce HIV prevalence among IDUs through the harm reduction programs. In the beginning Iran like many other countries, was adopting supply reduction policy, all forms of drug use was regarded as a criminal offence. During the mid 1990s HIV infections were seen increasing among IDUs especially among those who were in Jails due to drug use or drugs related charges leading to a progressive change in the policy. (Razzaghi, E. et al, 2006)

Close cooperation and common understanding between the Ministry of Health, the Prisons Department, judicial authorities, resulting in a policy shift. Civil society and NGOs played an important role through advocacy and implementing successful programs with the ability to reach the populations in need such as IDUs. This provided a way forward for an efficient harm reduction strategy in Iran during early 2000s. (Kelechi, O. et al, 2006)

'Triangular clinics' is an Iranian programme which is recognized as the evidence of best practices. Triangular clinics program is offering integrated services for the prevention and treatment of STIs and HIV and AIDS for injecting drug users. These clinics run by NGOs effectively reach the IDUs specially those who are in person. A model for a comprehensive harm reduction is being implemented in Iran containing NSEP, methadone substitution therapy, general medical care, providing voluntary HIV counselling and testing (VCT), Drop in Centers (DIC) and referral services. As part of a continuum of care services are extended to provision food, clothing, and other basic needs. (Razzaghi, E. et al, 2006)

6.5 Actual response to IDUs and HIV in Pakistan:

The concept of harm reduction was first introduced in Pakistan during early 1990s with a UNODC supported project in Karachi. However, due to lack of implementing experience and un acceptance at various levels initial projects could not last long and failed to provide expected results. In 1999, a research study conducted in Lahore by UNAIDS and UNODC showed high prevalence of Hepatitis C and needle sharing a common practice among IDUs. This alarming situation coupled with some international exposure on harm reduction of some key policy makers, resulted in gaining policy attention. With the financial and technical assistance of UNAIDS and UNODC, a DIC was established in Lahore by an NGO Nai Zindagi (New Life). Later in year 2000, two DICs were opened in Karachi by two different NGOs Pakistan Society and Marie Adelaide Habilitation Program. Initially there were issues of acceptance for all three

harm reduction projects but these DICs continued working cautiously with low profile. (Shazia, M. and Afsar, H. A., 2004)

In May 2002, under a Memorandum of Understanding (MoU) between economic affairs division of GoP and DIFID-United Kingdom, 'HIV/AIDS Prevention with Drug Harm Reduction in Pakistan (HAPDHRP) Project' was started. This MoU described NACP as the main institution within GoP and ANF of Ministry of Narcotic Control as main partner of the project. HAPDHRP project was contracted to Futures Group of Europe. Five National NGOs were contracted to provide the harm reduction services in all four provincial capitals Karachi, Lahore, Peshawar and Quetta. After the first reported outbreak of HIV among IDUs in Larkana, HAPDHRP project supported the establishment of DIC in Larkana. (Azariah, S. and Bokhari, A., 2004) and (Futures Group, 2004)

The Futures Group wrapped up its work way back in 2003-4 primarily because at that time with the World Bank support Enhanced HIV/AIDS Control Program for the four provinces and Centre became operational. In this programme Service Delivery Packages (SDPs) for vulnerable population groups including IDU, MSM (hijras included), FSWs and Prisoners was started. Harm reduction services under the auspices of SDPs were started in Punjab and Sindh. This support has ended June 2008. However, due to the findings of second generation surveillance and availability of unutilized funds the World Bank has given no cost extension to IDUs SDP till December 2008 in Sindh and Punjab while UNHCR is providing partial support to SDP in Quetta. Financial support of harm reduction program in Peshawar ended in June 30, 2008, however implementation NGO is running it with the help of partial funding adjustments. The next Enhanced HIV and AIDS Programme is going to start from 2009-13

Table 8: Current harm reduction programs in various cities of Pakistan

City	Implementing NGO
Karachi	Pakistan Society Al-Nijat Welfare Society
Lahore	Nai Zindagi Associates
Faisalabad	Nai Zindagi Associates
Multan	Nai Zindagi Associates
Peshawar	Dost Welfare Foundation
Sargodha	Nai Zindagi Associates
Quetta	Legend Society
Larkana	Community Development Network Forum

(NACP, MoH, 2008)

A pilot project focusing improvement of the current HIV prevention services for women injecting drug users, wives/spouses of the male injecting drug users and prisoners has started recently in April 2008. This

pilot project is launched by UNODC with the collaboration with ANF, NACP, and provincial prison department (Punjab province). US \$167,000 program is part of UNODC's Strategic Programme Framework for Pakistan 2007-2010 is aimed to provide services for 1,000 female IDUs, 5,000 wives/spouses IDUs, and 500 female prison inmates. There are an estimated 150,000 to 175,000 IDUs in the country, 50% of them are married. According to a study conducted in 2007; Most of the married IDUs often have unprotected sex with their wives, and 25 percent reported symptoms of sexually transmitted infections. In addition, 15% percent among wives of HIV positive IDUs were tested HIV positive. Majority of the wives of IDUs do not have knowledge of HIV transmission. (*Nai Zindagi, 2008*) and (*The News, 2008*)

Over all coverage of current needle exchange programmes is reported very low. At the moment the coverage is no more than 15-20 percent. The table 9 shows that even with average harm reduction programmes the prevalence of HIV has decreased in Karachi. The low coverage is rather crucial information. Especially given the Universal Access by 2010 targets that Pakistan has set itself as part of the UNAIDS global Universal Access initiative.

Table 9: HIV prevalence among IDUs in different rounds of second generation surveillance

City	Pilot 2004	Round 1 2005-6	Round 2 2006-7	Round 3 2008
Karachi	26% (104/395)	*	30.1% (120/399)	22.9% (93/405)
Hyderabad	**	25.4% (101/398)	29.8% (119/400)	30.4% (102/398)
Sukkur	**	19.2% (77/402)	5.3% (21/399)	*
Larkana	**	*	16.5% (66/399)	27.6% (110/398)

* Not included
(*NACP, MoH, 2008*)

6.6 Nai Zindagi HR programs, an evidence of success within Pakistan:

There are some good examples of harm reduction services in Pakistan. One example is the work of a National NGO Nai Zindagi (New Life) Trust, founded by a group of former drug users. In the past 18 years, it has grown into an organization that provides harm reduction services to more than five thousand drug users. Nai Zindagi programs are based on the principle that the drug use should not be taken isolated from other issues

such as poverty, social marginalization and illiteracy. As the drug use specially injecting drug use has proved links with HIV and AIDS, Nai Zindagi is seeking solutions by providing people with better opportunities so they no longer need to rely on drugs to cope with their problems. The staffs being themselves former drug users have a close empathy with the target group and bring positive impact on the client's motivation. Evidence shows that once drug users gain awareness of them, and rebuilt their confidence, they are able to do more for themselves. (*Nai Zindagi, 2008*)

Nai Zindagi activities show that the implementation of harm reduction programmes, coupled with the prevention of HIV among IDUs, can have a significant positive impact. These kinds of interventions can reduce the harms of injecting drug use including prevention of HIV and AIDS among IDUs and other vulnerable groups. Support and participation of former drug users, especially in the role of peer educators and outreach workers, is an important factor for successful intervention. Equally important is the participation of family members, and various social groups and obtained support from government agencies, including police in Nai Zindagi programmes. Organization's positive and non judgmental approach towards drug users and encourage their participation in the program as peer educators and outreach workers. (*MoFA Netherlands, 2007*)

6.7 Main components of IDU interventions in Pakistan:

Components of harm reduction services in Pakistan are in line with comprehensive package for IDUs from UNAIDS. However, there are still no drugs substitution programs and ARVs for IDUs in the country. (*Altaf, A. et al, 2008*)

6.7.1 Outreach services and Peer Education:

Outreach strategies are conducted for providing information and services to the hard to reach population and establishing contacts among IDUs and health care services. Outreach activities target IDUs from individual level to communities (IDU) for counseling. The various forms of interventions aimed at IDUs have been implemented through outreach services, including peer education programs, bleach and condom distribution and needle exchange. IDUs networks provide advantage for outreach program with the added impact on peer group and ability of coping with social Norms. (*Nai Zindagi, 2008*)

Peer Education programs for IDUs are proved effective in reducing the risk behaviors. NSEP through Peer Educators are more effective in reaching new clients. Employing former IDUs as peer educators have also played an important role in the process of intervention. (*Ghauri, A.K. et al, 2002*)

6.7.2 Drop-in-Centres and Mobile harm reduction units:

There are two types of harm reduction services in Pakistan i.e. establishment of Drop-in-Centres (DIC) and other is through mobile harm reduction units. DIC is static harm reduction service outlet while the mobile harm reduction unit is a fully equipped vehicle that reaches the clients where they are. Both DIC and Mobile unit have their own pros and cons. Some of these found in literature are;

Advantages and limitations of DICs

- Accessible for a longer period of time
- Built-in space for social services
- Convenient for BCC activities
- Convenient for VCT
- Dependence on out reach workers for client motivation and referral
- Regularity of clients remain uncertain

Advantages and limitations of Mobile Harm Reduction Units

- Accessibility to the areas where DIC services are not available
- Effective penetration to the populations in need
- Reaches to wider areas and community
- More visible resulting increased trust
- Short hours of operation at particular site resulting gaps in NSEP
- Community support is needed for social services
- Difficult in conducting BCC activities especially on roadside.

(Futures Group, 2004) and (Nai Zindagi, 2008)

Combination of both DICs and mobile units are essential for effective harm reduction services for IDUs. DICs provide platform for various services including needle and syringe exchange, BCC and some social services. Where as, out reach services have ability to reach where they are most needed.

6.7.3 Counselling on Risk reduction and behaviour change:

Awareness is being built among IDUs about issues of drug use, injecting and other risky behaviours. Counselling is done to drug users, their families and communities individual and group basis. Counselling and experience sharing by other former IDU staff and provision of supportive therapy to drug users and their families is considered useful tool for creating hope and reduction in risky behaviours. (*Emmanuel, F. and Fatima, M., 2008*)

6.7.4 Needle and syringe exchange program (NSEP):

There is strong evidence that increasing the availability of needles and syringes and NSEP within the harm reduction services reduce the needle sharing among IDUs resulting reduced risk of HIV transmission. Considering this NSEPs are major component of harm reduction services in Pakistan. Sterilised sealed disposable syringes are provided preferably in exchange of used syringes by the IDUs to ensure that sharing take place. However provision of new syringes even without exchange is being promoted to ensure that client has new syringe at the time of need. Sprit swabs and adhesive sterile bandages are also provided. (*FHI, 2007*) and (*Futures Group, 2004*)

6.7.5 Detoxification and Rehabilitation:

Most NGOs have their own detoxification and rehabilitation treatment facilities. Motivated clients are referred to detoxification and rehabilitation services. The drug users are brought in detoxification for usually 10 days at any detoxification and rehabilitation treatment facilities of NGO where they keep him and provide him some oral substitute (Buperonorphine-Tamgesic). Client is 'cleaned' for 10 days and left to go to family however; their families some times are not keen on taking them back and rather hate them. They in most of cases have no job and social circle is not willing to accept them. That takes them again back to drugs. IDUs and their families are prepared for detoxification and maintenance of abstinence. (*Futures Group, 2004*)

6.7.6 Primary Health Care and referral Services:

IDUs generally have less access to health services. Health services (including life saving) are often denied to them mainly due to their life style forced by poverty, stigma fear of law. Basic health care services within harm reduction programs in Pakistan include abscess management, Wound Care and Anti-septic Dressings. Primary health care services also include referral to detoxification and/or other services if needed. Medical assessments and checks are often performed by a trained medical doctor. (*Futures Group, 2004*)

6.7.7 Promotion and Provision of Condoms:

Condoms are made available within harm reduction facilities added with counselling for safer sexual practices. Purpose of condom provision in harm reduction services is to prevent transmission of HIV and other STIs among IDUs. To avoid reluctances for the use of condoms confidentiality is assured and maintained. (*Ghauri, A.K. et al, 2002*) and (*Nai Zindagi, 2008*)

6.7.8 Syndromic STI management:

Services of STI management are being provided on Syndromic Management Principles of WHO. Comprehensive management of STI involves:

- Reducing the incidence of STI by preventing transmission through the promotion of safer sex, making condoms available
- Reducing the prevalence of STI through early and effective case detection, treatment, partner notification, surveillance and monitoring

No doubt comprehensive management of STI is appropriate approach however, due to stigma attached with IDUs and STIs itself make it difficult for IDUs to actually avail these services (*Emmanuel, F. and Fatima, M., 2008*)

6.7.9 Voluntary Counselling and Testing (VCT):

VCT is important component of SDPs under Enhanced HIV/AIDS Control Program. About 16 VCT centres are established in big cities throughout the country and are aimed to provide services to all populations with high risk including IDUs. Some VCT centres are established in hospitals and some are community based. Selected local NGOs are responsible for VCT services. Complete confidentiality is maintained about the test results and identity of person tested. HIV testing is optional and pre and post test counselling is done to minimise possible emotional sufferings. However, VCT services for IDUs are only being provided in DICs and mobile harm reduction units. (*Ikram, N., 2007*)

6.7.10 Mobilization and motivation of clients:

IDUs are been mobilized from their street drug scene and motivated to avail harm reduction services. Motivation is being done to create effective interaction. Former IDUs as peer educators are highly effective in mobilizing and motivating IDUs to use harm reduction services. (*Ghauri, A.K. et al, 2002*)

6.7.11 Social Services:

Majority of IDUs live in poor hygienic conditions. IDUs are encouraged to avail offered services. Services may include Bathing, Washing, Sleeping, Resting, Food and Refreshment etc. DIC usually is the best platform for provision of social services. (*Futures Group, 2004*)

6.7.12 Health Education:

Health education is focused on prevention from HIV Hepatitis C, STIs and other harms related to injecting drug use. Health education is provided at centres and also during outreach activities. (*Futures Group, 2004*)

6.8 Access to treatment, care and support:

It is clearly mentioned in National HIV and AIDS Policy document that "People with HIV and AIDS will have the same access to health services as other citizens of Pakistan". "Health services will work towards achieving increased access to anti-retroviral therapies and consistent access to the medicines that prevent or treat opportunistic infections. Anti-retroviral therapy will be provided free of charge to PLHIV and will be integrated into a comprehensive care and support program". (*MOH/NACP, 2007*)

Dr Arshad Altaf, Surveillance Officer HASP, during personal communication said that ARV centres are established in each provincial capital and Islamabad from where AIDS patients get the medicines and these centres are also equipped with viral load and CD4 count. ARVs are being provided free of cost at these centres through the Global Fund against AIDS, TB and Malaria (GFATM) support. Global Fund procures these medicines from India and through NACP are distributed to all ARV centres. However, as a policy, government is not providing ARVs to IDUs because of reasons such as systemic side effects of ARVs (as majority have hepatitis B or C meaning damaged liver) and compliance. It is against human rights and universal access but that was decided prior to the launch of ARV program by all stake holders.

According to Dr Saleem Azam of Pakistan Society, "even former drug users in Sindh are being denied AIDS treatment at government health centers, making harm-reduction more difficult". Pakistan Society is an NGO which runs two rehabilitation centers with the funding from European Commission. Drug users should not be denied their right of getting AIDS treatment and on other hand some studies show the evidence of reduced risk heterosexual HIV transmission with the use of ARVs. Programs need to be designed to address the issues of adherence. (*Wilson, D. P. et al, 2008*) and (*Ebrahim, Z., 2007*)

7. CONCLUSION

It is important to determine the current trends of the HIV epidemic in Pakistan. It becomes more important in a situation where the country is confronting the epidemic among IDUs and has already moved from nascent to concentrated level of epidemic. Additionally MSM are rapidly emerging as the second highest risk group with repeated HIV cases reported among them. Looking at the history of stages of HIV epidemic in Pakistan and a high prevalence of HIV among IDUs across many cities the situation suggests an epidemiological transition.

Asian Epidemic Model shows that in countries where HIV prevalence remain low for many years, rise in HIV infection among IDUs can potentially start HIV epidemic in other most at risk populations and then into low risk groups. In many countries across the world HIV epidemic initially started among IDUs and this group later acted as a bridge to reach to the heterosexuals and general population. Highest rates of HIV infection in most of the Asian countries are being found among IDU Groups, however many experts still stress that sex work as the main factor of HIV epidemic in Asia. Reason might be that there are more people involved in buying and selling sex compared to the number of people who inject drugs. Thus is increasing the probability HIV infections transmission through sexual contacts as compared to injecting drug use. It may be noted that there is consensus that the level of commercial sex, mainly percentage of individuals buying sex, and number of clients per Sex Worker per day determines how high the HIV epidemic will peak in the general population. But, most often in Asia a general population epidemic is sparked off by a small but high epidemic curve among IDUs.

In recent debates and publications some HIV experts have different opinions about the threat of generalized epidemic in the Asian countries. Two widely discussed arguments are existence of real threat of generalized HIV transmission in Asian countries (especially heterosexual transmission) and requirement of exceptional response towards HIV and AIDS. Experts have various arguments; however, need of prevention programs such as harm reduction is still emphasized.

Issue of injecting drug use is not solitary. Poverty, social system, government policies and various deprivations are linked with that. Large number of IDUs in Pakistan use synthetic pharmacological drugs or combinations. This dimension of injecting drug use pattern is encouraged by the easy availability of those drugs from pharmacies without any prescription. Data from second generation surveillance and other research studies conducted in Pakistan documents high levels of unsafe behaviors such as sharing contaminated needles among IDUs, unsafe sexual activities and instances of rapid explosive spreading of HIV through injection drug use from negligible levels to higher levels.

Prevention programs among IDUs need to give more attention and resources to comprehensive harm reduction approaches, including needle exchange, drug substitution and rehabilitation. The main reason for the less effective and very limited response to the issue of HIV and drug use related services is that the policy makers are still unwilling to consider HIV among IDUs as 'a real public health problem'. 'Centers of Excellence' have been created in provinces and in the federal capital for STI and HIV and AIDS management and treatment, but again they have not yet become true functional facilities. There is weak mechanism of government support and political commitment towards HIV and AIDS, despite the 'expended response' one of the government priorities. That also reflects the deeply rooted stigma. The defective health system lacking adequate infrastructure, skilled staff, poor coordination, accountability and monitoring and evaluation shows lesser commitment from leadership.

There are significant challenges convincing policy and decision makers that;

- HIV and AIDS in general and concentrated epidemic among IDUs needs special attention
- Drug use and injecting drug use is a socio-psychological problem and need serious actions for reducing associated harms
- Working around health care structure to make services easily available and accessible to population groups such as IDUs and PLHIV free from stigma discrimination.

Knowledge about concentrated epidemic in some populations such as IDUs and MSM provide Pakistan a window of opportunity to design prevention and treatment programs for not only IDUs but other most at risk groups. The epidemic potential in Pakistan depends greatly on implementing effective harm reduction programs now, and health services which address to needs of IDUs are required. There are examples of good harm reduction programs within the country that shows that right things are being done but coverage is much less than the actual need.

8. RECOMMENDATIONS

8.1 Recommendations for Ministry of Health:

- The Ministry of Health should play leadership role on bringing HIV and AIDS on the priority agenda and to obtain political commitment within the government and other relevant ministries.
- Working with Anti Narcotic Force to increase acceptance of harm reduction programs and also control the supply and availability of drugs on streets.
- Introduction of methadone programs on pilot basis initially and depending on their success at larger scale.
- Formation of Pakistan's Multisectoral Federal AIDS Council with meaningful representation of PLHIV, NGOs, other departments and development partners.
- Involvement of existing health workers from public and private sector for the spread of HIV and AIDS information may be useful as an entry point. This may be the handy approach to provide awareness about HIV and AIDS to general population and can be done by mainstreaming HIV within health department.
- Control over the counter sale of synthetic pharmacological drugs such as Avil, Tamgesic or Restoril which are used as substitute by IDUs once heroin is not easily available.
- Reinforcement of blood safety and infection control mechanisms.
- Formalising referral systems with services without discriminating IDUs.
- Recognize that access of IDUS to evidence informed prevention programs as a human rights issue.
- No discrimination on the basis of drug use and HIV status should be applied in government sector medical institutions.
- Ministry of Health, epidemiologists, managers within NACP and PACPs, as well as researchers need to understand the epidemic in the country, as a basis for making program decisions.
- Legislation should be done in order to respond the comprehensive service needs of IDUs in both public and private health care sectors.

Recommendations for National AIDS Control Program:

- Proactive, targeted and effective response to IDUs and HIV related issues at all levels should be started by looking at evidence informed interventions globally and nationally.
- To respond concentrated HIV epidemic in Pakistan, successful harm reduction interventions of some NGOs need attention for wide scale adaptation and replication.
- Expansion of interventions for IDUs aiming to increase safe behaviours and to improved availability of NSEP and STI services.
- Appropriate availability of ARVs for IDUs who are in need is stressed because lower viral load will ultimately reduce the risk of further disease transmission.
- Advocacy with religious leaders and local communities to reduce stigma and discrimination on HIV and AIDS and drug use.
- Response should focus on trend of the epidemic and service needs of IDUs, with involvement of different partners and stakeholders, including government departments, national and international NGOs, the UN system, donors, civil society and people in need as partners.
- Inclusion of human rights groups for monitoring instances of stigma and discrimination faced by IDUs and PLHIV.
- Standard treatment protocol should be developed for the treatment of IDUs who are AIDS patients with the support and monitoring seeking to mainstream rights based approach.
- Efforts of raising awareness on injecting drug use HIV and AIDS are needed to be scaled up.
- Utilization of media for raising awareness and sensitization about HIV, AIDS and Injecting drug use/users can be projected as solution not problem
- The Behavioural Change Communication component of the programs should also be contracted out to mass media companies.
- Pakistan requires regional collaboration and the sharing of national and international best practice experiences, such as harm reduction programs would benefit from coordination with similar initiatives in Iran and India considering the cultural context.

Recommendations for NGOs:

- Increased capacity and mechanisms in governance, transparency accountability is essential.
- Capacity of implementation of programs and coordination need to be enhanced.
- The prevention programmes should reach IDUs as HIV is reported high among this group and also look at the contexts that make IDUs vulnerable.
- A better understanding of the drivers of and trends of epidemic could help achieving better results in preventing future HIV infections to occur and providing needed care and treatment.
- The rehabilitation programmes should be organized in such a manner that they look after the person once he leaves rehabilitation facility.
- VCT services should be provided adapting national/international guidelines.
- Rights based approach should be mainstreamed in the response, concerning confidentiality.
- Intensive advocacy with political leadership is required to make them realise the HIV among IDUs as public health problem and for support in response.
- Facilitate comprehensive policy dialogue, involving politicians, public departments, NGO sector and civil society.

8.4 Recommendations for Donors:

- Fill financing gaps for HIV prevention and other health care services, especially for neglected groups such as IDUs.
- Support national monitoring and evaluation and health systems strengthening for better implementations and impact assessments.
- To measure the behaviours of populations at risk and HIV epidemic among them, support for the continuation of expanded Surveillance inclusive of smaller cities is needed in country.
- Duplicating efforts maybe avoided e.g. HIV second generation surveillance was in progress RTI study was also planned at the some same sites and with the same groups.

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