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1.1 INTRODUCTION

In less than 20 years, AIDS has become a global pandemic. At the beginning of the 21st century, there are few, if any countries or regions of the world, which can claim that they are free from the disease. In some countries its evolution has been checked but in others it is posing a challenge.

According to the global epidemic reports of NACO, (2006) an estimated 38.6 million (33.4 million–46.0 million) people worldwide were infected with HIV at the end of 2005. An estimated 4.1 million became newly infected with HIV and an estimated 2.8 million lost their lives to AIDS (Tribune, August 13, 2006). Overall, the HIV incidence rate is believed to have peaked in the late 1990s.

It is estimated that over 5 million people are suffering from HIV/AIDS in India. According to UNAIDS 2006 reports on the epidemic, India has surpassed South Africa in having the largest number of HIV/AIDS cases. The number of cases reported in India according to the UNAIDS reports are 5.7 million, as against 5.5 million in South Africa. According to Ministry of Health and Family Welfare India, the estimated number of cases of HIV is 5.208 million (Tribune, May 31, 2006). The Current national estimates by NACO (2004) and UNAIDS (2004) are as follows:

- AIDS is on the increase in India ever since 1998.
- India represents approximately 72% of HIV/AIDS prevalence in the South/South East Asian region and 13% of global prevalence. India represents 17% of the world’s population.
- Six Indian states are considered to have high HIV/AIDS prevalence (>1%) – Manipur, Nagaland, Andhra Pradesh, Tamil Nadu, Karnataka and Maharashtra – as are 49 districts within states.
- Most HIV infections in India are due to sexual transmission (84-86%).
- Women account for 39% of India’s estimated HIV/AIDS prevalence.
- Among young people, ages 15-24, the estimated number of young women living with HIV/AIDS was almost twice that of young men.

1.1.1 Origin of HIV

The origin of the HIV Viruses and AIDS is still a mystery. There have been many theories but none so far has been proven. Some of the theories relating to the
Origin of HIV/AIDS given by, Hubley, Chowdhury and Chandramouli, (1995), are discussed in the following paragraphs:

- **Isolated Community Theory**: According to this theory AIDS virus has always existed in a small isolated group of people. The deaths in that group might not have been noticed as unusual or the people may have had some immunity. The virus was then passed to an outsider and then spread from there. But this theory was not accepted because of many deficiencies, i.e. no person has ever been shown to be immune to AIDS. The epidemic was first observed in urban areas and in those remote areas which are in contact with outsiders and where it seems to have been as a result of contact with outsiders.

- **Green Monkey Theory**: According to this theory the virus was transferred to humans by the African Green Monkey. This was supported by the view that the virus HIV-2 was genetically similar to Simian Immuno deficiency virus (SIV), found in some monkeys in the laboratory in California during experiments, where the Green Monkeys were also being experimented. However, this theory was rejected on the basis that, as SIV is closer to HIV-2 the theory would predict that HIV-2 would have appeared first, but this was not so. The original AIDS epidemic is based on HIV-1, and the relatively smaller HIV-2 epidemic only appeared later.

- **Germ Warfare Theory**: This theory, that the American Military produced HIV as a germ warfare has been criticized because the technology for genetic engineering did not exist in early 1970’s when HIV was thought to have first started spreading.

- **Mutation Theory**: According to this theory, HIV was caused by mutation of a harmless virus to produce a new virus with deadly properties of HIV, which was already present in animals similar to human beings. It is impossible to tell that in which country that mutation first took place. But the first recorded case of HIV infection was found in a New Orleans teenager who died with strange symptoms in 1969 and in a woman in 1959 from Zaire.

  The most likely mechanism of transmission of HIV-1 from chimpanzees to humans was by contamination of a person’s open wound with the infected blood of a chimpanzee, probably when the chimpanzee was being butchered for the purposes of consumption (Weiss, Wrangham, 1999). As with other microbes, transmission may
not result in an epidemic unless certain conditions are present (Krause 1998), an intermittent HIV infection in a rural village in Africa might have been passed on to an infected person's sexual partner and would probably have resulted in the deaths of the infected persons without further spread, thus representing a dead end for the virus. These conditions included massive migration from rural areas to urban areas; the breakup of family units due to the migratory nature of employment opportunities, with its attendant sexual promiscuity and extensive frequenting of commercial sex workers; and contamination of the blood supply (Quinn, Fauci, 1998).

The introduction of the epidemic to developed countries, such as the United States, followed relatively soon after the "gay revolution", that had its origins in the riot at the Stonewall Inn, a bar frequented by homosexual men, in New York City in 1969 (Kramer, 1994). Similar patterns soon followed in other developed countries, such as Canada, Australia, and those of Western Europe.

1.2 AIDS AND HIV

AIDS is the abbreviated form for Acquired Immune Deficiency Syndrome. As the name implies it is a condition caused by a deficiency in the body’s immune system. It is a syndrome because it encompasses a pattern of different symptoms with varied manifestations in different cases. It is acquired because AIDS is an infectious disease caused by virus, which is spread from person to person through a variety of routes (Hubley, Chawdhury, and Chandramouli, 1995). This makes it different from other immune deficiency conditions due to the genetic causes.

According to the San Francisco AIDS Foundation (2006), the term AIDS applies to the most advanced stages of HIV infection. Each letter stands for the following terms:

A - Acquired - because it's a condition one must acquire or get infected with, not something transmitted through the genes.

I - Immune - because it affects the body's immune system, the part of the body which usually works to fight off germs such as bacteria and viruses.

D - Deficiency - because it makes the immune system deficient (that is, the immune system may not function properly).

S - Syndrome - because someone with AIDS may experience a wide range of different diseases and opportunistic infections.

And each letter of HIV stands for the following terms:

H - Human - because this virus can only infect human beings.
I - Immuno-deficiency - because the effect of the virus is to create a deficiency, a failure to work properly, within the body's immune system.

V - Virus - because this organism is a virus, which means one of its characteristics, is that it is incapable of reproducing by itself. It reproduces by taking over the machinery of the human cell.

HIV is the virus that is believed to cause AIDS, since the vast majority of researchers believe that HIV is the sole cause of AIDS. HIV is usually referred to as "the AIDS virus."

HIV, like any other virus, is mainly a core of genetic material (called either RNA or DNA) surrounded by a protein coat necessary to allow them to reproduce. It accomplishes this by taking over the nerve center of another living thing (its nucleus) and directing it to stop whatever function it was performing and start-making virus. Once the virus has altered the nucleus and directed it to make more viruses, the infected cell is then destroyed, to permit the newly formed viral particles to be released and dispersed throughout the body. This permits the virus to spread (and continue to reproduce itself) with in the host and/or from person to person to ensure virus’s continued survival (Greif and Golden, 1994).

HIV has the ability to mutate as fast as the antibodies that are produced against it; the immune system is extremely vulnerable to the AIDS virus and helpless to defend itself or the rest of the body against it. HIV is present in all body fluids of an infected person but is concentrated in blood, semen and vaginal fluids. It is present in virtually all body tissues and organs including the brain, spinal cord and cerebrospinal fluid. It can be found in tears, saliva, and breast milk (Hubley, Chowdhury and Chandramouli, 1995). Since it has the ability to mutate, the infection from people to people varies and new forms of the virus are generated. This makes treatment all the more difficult.

1.3 CAUSES AND TRANSMISSION OF HIV/ETIOLOGY

HIV is transmitted only when contaminated blood and body fluids come in contact with the blood mucous membranes of healthy individuals. Seminal, vaginal and cervical secretions, in particular, contain substantial concentrations of HIV. There are three major documented routes of HIV transmission as described by, Samson et al., (2000). Carballo and Solby (2001) have named the type of HIV vulnerable population. Together they can be explained as:
1.3.1. Sexual Transmission

Men to Women, and Women to Men Transmission:

HIV is primarily transmitted through sexual contact. Penetrative, unprotected sexual intercourse, vaginal or anal (without a condom), with an infected person -male or female- which leads to contact with infected sexual body fluids such as seminal, vaginal or menstrual blood, poses a high risk of HIV transmission. The presence of any sexually transmitted disease (STD), either ulcerative or non-ulcerative, can increase the risk of both acquiring and transmitting HIV.

Study by Des et al., (1987), suggest that the heterosexuals are the second largest group of persons to have been infected with, and to transmit human immunodeficiency virus (HIV). Living with a sex partner was a risk-promoting factor, and a male partner's desire for children, but not the women's desire for children, was associated with unprotected sex in HIV-positive women.

Sex Workers and HIV Transmission:

In the Asia/Pacific region, sex workers are particularly vulnerable to HIV as well as other STIs and represent the most significant core group for transmission to the rest of the population through their clients. The critical factors influencing the rate of spread from sex workers include the number of clients per day and the proportion of men in a society who regularly visit sex workers. In a nation with high levels of both of these factors and where sex is not protected by condoms, HIV epidemic spread very rapidly.

A large number of female sex workers, high prevalence of sexually transmitted infection (STIs) and low condom use make a potent combination for explosive growth of the epidemic. Venkataramana and Sarada (2001) estimated increase in HIV infections in commercial sex networks, from the 1999 level of approximately 2.49 million to about 3.93 million by 2005 in a favorable scenario, and to 6.87 million in a worse scenario.

Trafficking, the selling of women and children for monetary profit, most often leading to bonded prostitution, has been the burning issue in South East Asia. Paper by Pranati Datta (2005) highlighted on the documented and undocumented Nepali female migration to West Bengal. It revealed that though documented female Nepali migration shows a declining trend undocumented migration for sex work is gradually increasing. Poverty, historical oppression, organized net work, profit accrued to traffickers, demand for fair skinned, delicate featured girls and open border between

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India and Nepal contributed to trafficking and illegal female Nepali migration to West Bengal, thus increasing commercial sex.

**Men who have sex with men (MSM)**

MSM constitute an ill-defined group and includes men who both sell and buy sex as well as those who exclusively practice homosexual behavior and others who are bisexual. Some advanced nations like America and Europe are giving recognition to the bonding of the same sex couples. In India according to the IPC unnatural sex i.e. sodomy is legally punishable.

Studies have been done on men having sex with men (MSM) in India. In a cross-sectional population based random sample survey by Srikrishnan, et al. in (2004), 774 randomly selected residents of 30 slums in Chennai were interviewed for behavioral risk factors and 46 of them reported sex with other men. MSM were 8 times more likely to be seropositive for HIV and over twice more likely to have a history of STD than non-MSM (Gupta, et al. 2004).

Purcell, et al. (2001) examined substance use in relationship to transmission risk behavior (unprotected insertive anal intercourse, UIAI, or receptive anal intercourse, URAI) between HIV-positive men who have sex with men (MSM) and their HIV-negative or unknown serostatus partners. Men who engaged in transmission risk behavior with casual partners were more likely, than men who did not engage in such behavior, to have used various substances. Users of certain drugs were specifically less likely to use condoms with HIV-negative or unknown status partners than non users. In men who drank alcohol more frequently before or during sex engaged in significantly more UIAI with casual partners. In men who used drugs, more frequently before or during sex were more likely to engage in URAI with casual partners.

Crepaz et al., (2002) reviewed and uncovered risk for HIV transmission with other types of partners. HIV-positive MSM were more likely to have unprotected sex with anonymous than known partners at risk for infection because of lesions. Having an attractive partner of same sex, who was willing to engage in risky sex, also increased the likelihood of unprotected sex in MSM.

Koblin, et al., and the EXPLORE Study Team (2003) studied the High-Risk Behaviors among Men Who Have Sex with Men. Results revealed that among 4295 men, 48.0% and 54.9%, respectively, reported unprotected receptive and insertive anal sex in the previous 6 months. Unprotected sex was significantly more likely with
one primary partner or multiple partners than with one nonprimary partner. Drug and alcohol use were significantly associated with unprotected anal sex.

Stall, et al., (2003) conducted a cross-sectional study on a set of psycho-social health problems that have an additive effect on increasing HIV risk among men who have sex with men (MSM). The results of the study showed that psychosocial health problems are highly intercorrelated among urban MSM. Greater numbers of health problems are significantly and positively associated with high-risk sexual behavior and HIV infection.

Apart from USA and Europe, men having sex with men constitute a measurable part of the population in Asian countries also. Men, who have sex with men, represent a diverse group that is not easily identifiable for intervention, let alone surveillance purposes. Yet they represent one of the highest risk groups because of the transmission probabilities associated with anal intercourse in which lacerations occurs maximally.

1.3.2. Transfusion of Blood and blood products

If blood or blood products are contaminated, HIV can be transmitted during blood transfusion or during the transfusion of blood products. The sharing of needles and syringes presents an immense risk too.

**Transmission of Blood:**

*At a high risk are patients,*

1. In need of blood, during blood transfusion,
2. Who catch infection accidental transmission through Dental operations, organs transplantation, and through infected operation apparatus that have not been sterilized properly.
3. At the barbers shops and beauty saloons. Abrasions during shaving, waxing, manicure etc might spread infection from one individual to another, if proper washing and cleaning of the equipments is not done.

**Infection through Blood:**

*Intravenous Drug Users*

To identify risk factors for HIV infection in intravenous drug users, Schoenbaum, et al., (1989) found the seroprevalence of HIV antibody in 452 persons. The presence of HIV antibody was associated with

1) the number of injections per month,
2) the percentage of injections with used needles,
3) the average number of injections with cocaine per month, and
4) the percentage of injections with needles that were shared with strangers or acquaintances.

The number of heterosexual sex partners who used intravenous drugs was associated with HIV infection in women. Thus it was concluded that the differences in both the social setting of drug use and behavior related to injection, carry different risks for HIV infection.

As per Des, et al., (1988), intravenous drug users play an increasingly important role in the future of the AIDS epidemic. It is suggested that the rates of drug injection and anonymous sharing of injection equipment appear related to rapid spread of HIV among intravenous drug users. HIV-positive Intravenous Drug Users (IDU) are more likely to have unprotected sex with their IDU partners than with non-IDU partners and seropositive women who shared needles with their significant others also tend to have unprotected sex with those partners (Hankins et al., 1997).

Drug-related HIV epidemics, compared with other regions of the developing world have significantly affected the Asia and Pacific region. A study among women in Manipur by Panda, et al., (2001) revealed a high HIV prevalence of 57 per cent among injecting drug users compared to 20 per cent among non-injecting drug users. A study in Chennai also reported multiple risk behaviors like exchanging money for sex or having sex with men among men who used illicit drugs (Go, et al., 2004).

In most countries in South and Southeast Asia, injecting drug users (IDUs) are the first community to be affected by HIV. Typically, HIV epidemics among IDUs reach very high levels of infection within a short period of diffusion into this population. Users in Asian and pacific countries are rapidly switching from non-injecting drugs to injecting drugs, forcing previously undetectable levels of HIV to a higher level in these groups (NACO, 2002).

1.3.3. **Mother to Child Transfusion:**

- During Pregnancy, HIV can cross the placenta and infect the foetus. It is believed that intrauterine transplacental infection of the foetus is the most important mechanism of vertical transmission. A recent focus of investigation has been on the role of the placenta in maternofetal HIV infection. However, the mechanisms by which infectious agents cross the placenta to infect the foetus remain largely unknown (Schwartz and Nahmiás, 1991).
During the birth process, through contact with the mother’s infected blood.

During breast-feeding, milk being a body fluid contains certain concentration of the virus. Tess, et al., (1998) examined the association between breast-feeding-related factors and transmission of HIV from mother to child. A trend was shown towards an increased risk of transmission with longer duration of breast-feeding, and a history of bleeding nipples.

1.3.4 Mobile population:

The desires for economic growth, the need for more jobs and expanding infrastructure are fueling the mobility of more and more individuals, businesses and whole societies. Migrant laborers from Bihar, UP, leave their native place and move to richer metropolitan cities in search of work. Slum areas in these metropolitans are the places where the infection spreads at a fast pace. People get involved in rapes, frequent sexual practices and also get involved in homosexuality (UNDP, 2005).

At the same time, epidemic of HIV surpasses international borders and move through risk groups in greater numbers and with greater frequency. The fluidity in international markets and especially the lack of economic stability in Asia has erupted into non-stop movement within countries and among countries, increasing prevalence of HIV. The epidemics themselves are more fluid, passing infection through truckers, traders, contract labors, sailors, fishermen, traveling salesmen, and their sexual partners many of them who are sex workers, who can increase the spread of HIV in communities mostly through sexual networks.

Screening of the 2063 individuals in rural and urban areas in South India revealed the HIV prevalence to be 7.7 per cent (Solomon, et al., 1998). Men move to urban areas for work and remain away from their families for a long time and often indulge in high-risk behavior. The infected men carry the infection back to their spouses in the rural areas. Living away from the family for work, economic satisfaction and business purposes have been reported to be an independent predictor of HIV acquisition in men (Mehendale, Shepherd, Divekar, Gangakhedkar, Kamble, and Menon, 1996).

Bronfman, Leyva, Negroni, and Rueda, (2002), presented a multi-centre study that analyses the socioeconomic, cultural and political contexts that give rise to population mobility and its relationship with vulnerability to sexually transmitted infections. Results of a household survey of the local population revealed that within
the social context, transactional sex, sex for survival, rape and non-professional commercial sex happened in conditions that increase the risk of the transmission of STI/HIV, such as infrequent condom use. Migrant women and sex workers are particularly more vulnerable.

**Cross-Border Risk Areas:**

Border crossing groups frequently include sex workers. With foreign sex workers in high demand in many places, they are considered, at times erroneously to be infection free. Of increasing concern is, illegal international trafficking of women and girls specifically for the sex trade.

India had more cases than any other country in the world, with more than 4.5 million HIV-seropositive patients. The epidemic of HIV/AIDS is distributed between the urban and rural populations mainly in the southern and western states of the country (Solomon, Kumarasamy, Ganesh, & Amalraj, 1998). Border areas around Andhra Pradesh, Tamil Nadu, Maharashtra, Karnataka, Nagaland and Manipur are classified as high prevalence States based on consistently high levels of HIV (WHO, 2005).

Analysis of distribution of HIV in parts of Asia has suggested that busy land border crossings and international fishing ports have higher STI and HIV rates than other locations. Because of the high volume of transit and the atmosphere of risk, ports and border towns can produce explosive pockets of HIV. The epidemic spreads when infected individuals work and settle in a wide variety of locations and bring their infection home.

**Armed Forces and Military Population:**

Other risk taking populations that are highly mobile and susceptible to the risk of HIV include, individuals working with military, armed forces, paramilitary, like ITBP, BSF and the CRPF. They work in a daily environment of readiness for combat, high stress, and rigid control, which combine with peer pressure to perform. Besides they are mostly on areas which are non family stations. A need for stress release, loneliness away from home, and living together in barracks promote risk taking behavior while off duty. They are mostly young and sexually active, and are specifically trained in risk-taking and self-perceptions of invincibility and are usually exposed to opportunities for casual sex.

Security and paramilitary forces in Jammu and Kashmir may have won the war against terrorists, but they are falling prey to a greater enemy within. AIDS
threatens to create the kind of havoc that 16 years of militancy hasn't. With nearly 22 per cent of the 500 HIV positive cases reported in the state so far coming from the security forces, it has become a matter of serious concern for the J&K government (Hindustan Times, 9th Aug, 05).

Most individuals are not aware of their personal risk for HIV infection because they are not resident anywhere long enough to receive targeted behavior change communication messages and essential prevention education. While this factor makes these groups difficult to reach by prevention programs, there is urgent need to access mobile populations who are more vulnerable to HIV and can diffuse the virus unknowingly across the wide geographical area.

1.3.5 **High Risk Behavior**

- **HIV and adolescents:** Studies on adolescence in India show that while they are sexually active they do not have the necessary information or services due to discomfort of the elders to discuss the issue and their lack of acknowledgment of adolescence needs (Sodi, Verma and Sen, 2001). Among adolescent boys peer group pressure has a greater impact on sexual behavior than messages on the roadside (Mukhopadhyay, Nandi, Nundy, Sivaramayya, 2000).

According to Mohan 2004, the adolescents often lack knowledge about sex and sexuality. Exposure to conflicting moral values, media and Internet focusing on pornography, and intercultural variations make them a high risk taking population. Also the belief “this can not happen to us”, along with inadequate information of health care, indifferent home environment and family values and peer group pressures in school/college are the strong factors which make them vulnerable to the disease.

Young people are comparatively more vulnerable to HIV/AIDS than older adults primarily because of social norms and attitudes, ideologies and taboos. Unemployment and poverty, inexperience, ignorance and myths, risk taking behavior and the nature of experimentation is natural for young people. The bottom line is that young people acting without appropriate information, scientific education and counselling tend to indulge in unprotected sexual activities (Sharma, 2004), thus making themselves more vulnerable to HIV/AIDS infection.

### 1.4 **Psychological Consequences Faced by HIV Positive Individuals**

UNAIDS (2002) recognized that there are three phases to the AIDS epidemic in any society. The first of these is the
- Epidemic of HIV infection. This enters the community silently and unnoticed.
- Next follows the
- Epidemic of AIDS, which appears when HIV triggers life-threatening infections. Finally there is third epidemic- the
- Epidemic of stigma discrimination, blame, and collective denial- that makes it so difficult to effectively tackle the first two.

**Discrimination:**

Discrimination occurs when a distinction is made against a person that results in his or her being treated unfairly, and unjustly on the basis of their belonging or being perceived to belong to a particular group (UNAIDS, 2002).

The stigma associated with HIV/AIDS and the discriminations that may follow from this, the rights of people living with HIV/AIDS and their families are frequently violated. This violation of rights increases the negative impact of the epidemic. At the level of the individual, for e.g., it causes undue anxiety and distress – factors that are known to contribute to ill health (UNAIDS 2002).

**Stigma:**

An article published by UNAIDS, 2002 reveals clearly that people with HIV have been usually:
- Segregated in schools, hospitals
- Refused employment
- Denied the right to marry
- Required when returning to their national countries to submit themselves to HIV test. Individuals have been denied the right to return to their country on suspicion.
- Others have been denied visas to entry permissions.
- Rejected by their communities
- Killed because of their seropositive status.

In a telephonic survey in 1999, Herek, Capitanio and Widaman assessed the relation of AIDS stigma and negative attitude to HIV surveillance policies. People expressed significantly more negative feelings towards people with AIDS, gay men, lesbians, and injecting drug users.

The social nature of illness is particularly evident with a stigmatized disease such as AIDS. Since the earliest days of epidemic, people with AIDS and those suspected to be infected with HIV have been subjected to social ostracism,
discrimination and even violence (Gostin and Webber, 1998; Herek and Glunt, 1988; Herek, Mitnick, et al., 1998; Kegeles, Coates, Christopher, and Lazarus, 1989 and Zierler et al., 2000).

**Trauma:**

For most people with HIV AIDS the psychological trauma, that they face, revolves around uncertainty and adjustment. Uncertainty also emerges with regard to hopes and expectations about life in general but may also focus on family and job. Even more fundamental uncertainty may concern the quality and length of life, the effect of treatment and the response of society. In response to uncertainty, the person with HIV must make a variety of adjustments. Even the apparent absence of a response may in itself be an adjustment through denial. Their day-to-day life reflects tension between uncertainty and adjustment. It is this tension that causes other psychosocial issues to assume more or less prominence and intensity from time to time (Samson, Cherian, Mall, Ngaihte, Francis and Kangoo, 2000).

Samson, et al, (2000), brought out the Psychological impacts that are faced by the HIV +ve individuals. When a person learns about his/her HIV status, it is a major trauma or personal disaster. some reactions to the trauma they go through are listed. The reaction to this trauma can start with Shock.

**Shock:**

People are very confused and do not know what to do, onetime they feel rejected and lonely and the next they may feel hopeful.

HIV positive patients were included in the pre-test counselling done by, Lie, Biswalo, and Klepp (1995). Earlier signs of AIDS were verified, clinical symptoms of AIDS were revealed and terminal AIDS was diagnosed in men and women. In increasing order the psychosocial reactions to the positive test results were: shock, denial, anger, relief, guilt feeling, fright/anxiety, dejection/sorrow, and acceptance.

**Denial:**

Some people may respond to the news of the infection or disease by denying it. Initially it can be a constructive way of handling the shock of diagnosis, but if it persists it can become counter productive since some people may refuse to accept the social responsibilities that go with being HIV +ve.

A study was conducted by Fitzgerald, et al, (2004) to determine if information collected at HIV notification during voluntary counseling and testing (VCT) can predict patients’ future adherence with risk reduction counselling and medical
referral. Case histories described HIV-infected patients with signs of depression during counseling, who do not return for medical care, and women afraid of economic ruin and domestic violence, who do not notify their sexual partners. Quantitative predictors of seeking medical care include: denial at the announcement of HIV test results, belief that HIV can be transmitted by magic, and having symptoms at the time of HIV testing. Predictors of refusal to notify sexual partner of HIV status include: being poor female and belief that HIV can be transmitted by magic.

**Depression:**

There are a number of reasons namely; absence of cure that may result in feeling of helplessness, the loss of personal control, and knowing about others who have died or are ill, may contribute to depression.

Kalichman, Rompa, and Cage, (2000) conducted a study to distinguish between overlapping somatic symptoms of depression and HIV disease in people living with HIV Aids. Results identified discrete subsets of depression symptoms that correspond with symptoms of HIV infection.

Jeffrey, and John (2001) investigated the relationship between HIV infection and risk for depressive disorders. It was found that the frequency of major depressive disorder was nearly two times higher in HIV-positive subjects than in HIV-negative comparison subjects. Rates of depression do not appear to be related to the sexual orientation or disease stage of infected individuals. It was concluded that there was strong evidence that HIV infection is associated with a greater risk for major depressive disorder.

**Loss of Self-esteem:**

Rejection by colleagues, acquaintances and loved ones can lead to loss of confidence and social identity and thus to reduced feelings of self worth.

Bunn Solomon Mille and Forehand (2007) measured the stigma perceived by people with HIV based on the literature on stigma and psychosocial aspects of having HIV. Psychometric analysis was performed. Four factors emerged from exploratory factor analysis: personalized stigma, disclosure concerns, negative self-image, and concern with public attitudes toward people with HIV.

**Anger:**

They become outwardly angry because they feel that they have been unlucky to have contacted the infection. It may sometimes be directed inward in the form of
self-blame, for having been infected with HIV or it may take the form of self-destructive suicidal behavior.

Kemppainen (1997) conducted a study to identify the behavioral responses of hospitalized patients with HIV/AIDS. The inductive content analysis yielded 10 major response categories: participate, anger, appreciate, come close, stay away, match respect, match disrespect, dependent, complaint, and self care. One third of the patients listed angry behaviors. Behavioral descriptions of anger reflected increased irritability with advancing illness, intense psychological responses toward an AIDS diagnosis, or a violent and angry style of relating to others in street settings.

**Anxiety:**

Anxiety can quickly become a fixture in the life of a HIV +ve person, reflecting the chronic uncertainty associated with the infection.

Lee, et al, (2002), conducted research to examine internalized stigma in HIV-positive men and women. The majority of the sample experienced internalized stigma related to their HIV status. Individuals who experienced high internalized HIV stigma (IHS) had been diagnosed with HIV more recently; their families were less accepting of their illness, they were less likely to ever have attended an HIV support group. Individuals with high IHS also worried more about spreading their infection to others. Hierarchical regression analyses showed that IHS contributed significantly to levels of depression, anxiety, and hopelessness after controlling for the effects of key behavioral and psychosocial variables.

**Fear:**

People who are HIV positive have many fears i.e. Fear of abandonment, fear of dying, particularly dying alone, and in pain.

Semi structured interview was undertaken by, Lester, et al, (1995) to evaluate differences in health care discrimination, economic losses, risk behaviors, relationships changes, and psychological status of women from urban poor population. Although seropositive women reported greater satisfaction with social support from friends and family, many women did not disclosed their HIV status to any friends or family, for fear of abandonment.

**Loss of Social Status and personal worth:**

People with HIV experience feeling of loss about their life and ambitions, their physical attractiveness and potency, sexual relationship, status in the community,
financial stability, and independence and the most common loss that is felt is loss of confidence.

A qualitative study was conducted by Vernon, Knight, Gomez, Padian (1998) with men and women in HIV-serodiscordant couples to explore the management of HIV in their relationship. Analysis of the interviews revealed, partners' serostatus often created feelings of alienation within the relationship. HIV service community experienced segregation because they were not funded or prepared to work with seronegative partners. Many seronegative women, felt invisible both within and outside of the relationship. Yet, the uninfected partners shared the burden of a stigmatizing illness. The Stigma related to HIV positive patients, hindered communication about HIV and sex, disclosure to others, and access to services. Many experienced HIV as a loss of their sexuality. Seronegative partners spoke about 'keeping sex alive' and often had to push to continue having sex.

**Grief:**

HIV positive patients have profound feelings of grief about the loss they have experienced or are anticipating. They also suffer the grief that is projected on to them by close family members lovers, spouses and friends.

Kathleen, et al, (2003), examined AIDS-related grief and its association with coping among HIV-positive men and women. Participants exhibited elevated scores on measures of grief reaction and psychological distress including depressive symptoms, anxiety, and traumatic stress related to their losses. Hierarchical regression analysis revealed that severity of grief reaction was associated with escape-avoidance and self-controlling coping strategies, type of loss, depressive symptoms, and history of injection drug use.

**Guilt:**

HIV invokes a feeling of guilt over the possibility of having infected others or over the behavior that may have resulted in the infection. Also guilt about the sadness, the illness would cause to the loved ones and the family especially children.

Kaldjian, Jekel, and Gerald (1998), studied Ninety hospitalized HIV-positive patients. The aim was to find out Prior discussions about advance directives, possession of a living will (written advance directive), fear of death, professions of hope and purpose in life, religious beliefs and practices, guilt about HIV infection, and perception of HIV as punishment. Of the total sample 24% of patients had discussed their recovery status with a physician and 17% possessed a living will; 44%
of patients felt guilty about their HIV infection, 32% expressed fear of death, and 26% felt their disease was some form of punishment. Prior discussions about recovery status were less likely in those who perceived HIV as punishment and more likely in those who believed in God's forgiveness. A living will was more common in those who prayed daily and in those whose belief in God helped them when thinking about death. Fear of death was more likely in those who perceived HIV as punishment or felt guilty about having HIV, and less likely in those who read the Bible frequently or attended church regularly.

**Suicidal tendencies:**

There are two types of suicidal tendencies:

- Active – There is deliberate self-injury resulting to death
- Passive – There is concealing or disregarding the onset of possibly fatal complications of HIV infection or disease.

Members of a group of Intravenous Drug Users were studied by, Haastrecht, Mientjes, Hoek, and Coutinho (1994) for incidence of deaths due to suicide and overdose. The results showed that the overall suicide mortality rate was higher for HIV-positive individuals and also death from suicide is more common.

HIV/AIDS is as much about social phenomena as it is about biological and medical concerns. Across the world, the global pandemic of HIV/AIDS has shown itself capable of bringing out responses of kindness, unity, and support, bringing out the best in the people, their families and communities. But the disease is also associated with stigma, ostracism, repression and discrimination as individuals affected, (or believed to be affected) by HIV have been rejected by their families, their loved ones, and their communities (UNAIDS, 2000).

Therefore, there is a need of psychosocial competence that helps the individual, in handling life events such as coping with HIV/AIDS in an effective manner.

1.5 **COPING WITH HIV**

According to Perlin and Schooler (1978), Coping is defined as the cognitive and the behavioral efforts made to tolerate, reduce or master demands that challenge or exceed a persons resources. There is considerable controversy whether coping is consistent across situations or if individuals employ specific approaches to manage different problems.
There are two ways of coping with any problem. A Positive coping strategy (Confronting the Problem) and a Negative coping strategy (Escape from the Problem); any individual trying to overcome his/her problem can pick either one of the strategies throughout their life. The two strategies in relation to coping with AIDS are discussed in details below:

1.5.1 Negative coping:

HIV affects the life styles adversely, thereby making it difficult for the people to participate in mainstream process. Thus people, rather than taking to positive coping style, fall to negative coping in which they lose their fighting spirits and have low self esteem and a high rate of suicidal tendencies.

- Study by, Leserman, Perkins and Evans (1992), was intended to describe the coping strategies used by asymptomatic HIV-positive homosexual men. The authors found that more helpless coping, less fighting spirit, and less personal growth were related to dysphoria and poor self-esteem, whereas denial was related to more depression, anger, and helpless coping.

- Starace (1995) explains, in spite of the attention devoted by researchers and clinicians to the suicidal risk of AIDS patients, the magnitude of the phenomenon has not yet been clarified. Indeed, some authors have found a rate of suicide among subjects with AIDS 66 times higher than that of the general population (Marzuk, et al., 1988); whereas others report that the number of documented suicides represents only a small proportion of all deaths in AIDS patients. Several potential risk factors (neuropsychiatric morbidity, alcohol and drug abuse, behavioral disorders, etc.) are also believed to increase the suicide risk of AIDS patients.

- 58 HIV-infected women were assessed in a study by Nannis, Patterson, and Semple (1997) to find which psychosocial factors relate to positive coping behaviors in HIV-infected women. These women were generally well-educated, employed, therefore did not suffer from socioeconomic factors associated with inner city living, commercial sex work, or drug use. The results revealed that the combinations of predictors for identification with a helpless coping style were: loneliness, depression, and anger, lower social support and less belief in a chance locus of control.
A cross-sectional study was performed by Kelly, et al. (1998), to investigate the prevalence and predictors of suicidal ideation in an Australian sample of human immunodeficiency virus (HIV)-positive homosexual and bisexual men. Higher suicidal ideation was discriminated by the adjustment to HIV diagnosis (greater hopelessness and lower fighting spirit), disease factors (greater number of current acquired immunodeficiency syndrome [AIDS]-related conditions), and background variables (neuroticism). Significant predictors of a past attempted suicide were a positive lifetime history of psychiatric disorder (particularly depression diagnoses), a lifetime history of injection drug use, and a family history of suicide attempts. The findings indicated increased levels of suicidal ideation in symptomatic HIV-positive men.

The relationship between coping and psychosocial variables (psychological stress symptoms, locus of control, emotional repression, and social support) among human immunodeficiency virus (HIV)-infected patients, was studied by, Luigi, Roberto, Laura, Shariar, and Florio (1998). The results revealed, that those patients who were not adjusting well to their HIV-positive status had a coping style based on incapacity to face and confront HIV infection. Infection was associated with symptoms of psychological stress, repression of anger, external locus of control, and low social support. These patients showed symptoms indicating maladjustment to HIV infection. They reported inadequate coping responses (lower fighting spirit and higher hopelessness, fatalistic attitude, and anxious preoccupation) and social support, and had a greater tendency to repress anger and express sadness.

Personality, disease cofactors, and demographic characteristics of People living with HIV often affect their psychosocial adaptation, to HIV disease. Characteristics such as psychosocial competence, psychological functioning, cognitive appraisal, attributions, disease cofactors, and demographics such as gender, age and race/ethnicity may affect both quality of life and disease progression (Hoffman, 1996). Thus to address these issue of human rights violations and create an enabling environment that increases knowledge and encourages behavioral changes is needed for an effective HIV prevention and control strategies, especially in developing countries.
1.5.2 Positive coping:

An important positive coping strategy undertaken by the HIV/AIDS individuals is the Highly Active Antiretroviral Therapy (HAART), which has helped the people to have a positive attitude and show a fighting spirit against the epidemic.

- A study by Friedland, Renwick and Mccoll (1996) on Coping, social support and quality of life (QOL) were examined in HIV + people. Respondents had good levels of social support and used a variety of coping strategies. Income, emotional social support, and problem-oriented and perception-oriented coping were positively related to the Quality of life. Close friends provided most types of support.

- 58 HIV-infected women were assessed in study by Nannis, Patterson, Semple (1997). These women were generally well-educated, employed and therefore did not suffer from socioeconomic factors associated with inner city living, commercial sex work, or drug use. Different patterns of psychosocial variables discriminated between those who strongly identified with a coping style from those who did not. For fighting spirit, the best combinations of predictors were: strong social support, lower loneliness, depression, and anger, and a belief in a chance locus of control.

These days the younger generation is lending a helping hand to fight against HIV/AIDS, the deadly epidemic. As we know, youth today, or the adolescents are the most vulnerable, and a high risk population as far as the HIV disease is concerned, at the same time, they can be a great help in imparting knowledge about positive coping strategies and using safe measures against the epidemic. All this is easily possible as, young people are at ease to talk about issues affecting them in informal gatherings such as youth clubs, church groups etc instead of structured interaction e.g. in a health centre, and positive living talk/training assists them to easily make decisions on issues such as voluntary testing, disclosure etc.

- Makhasi (2002) briefly related experiences of youth in the fight against Aids through involvement and participation in the implementation of a national project called Young Positive Living Ambassadors (YPLA) in South Africa. YPLA is a youth oriented HIV/AIDS project implemented and, supported by government as well as the donor community. It employs the skills and abilities
of young people, who have tested positive to HIV/AIDS. They receive ongoing training and capacity building to update their knowledge and information about HIV/AIDS, and are involved in outreach work through visits to institutions of learning, health centers and wherever youth are found. These Ambassadors engage in outreach and awareness program targeting young people irrespective of their status, especially those residing in rural areas and informal settlements. The project aims to:

1) Promote the concept and practice of positive living as a preventive tool
2) Encourage sexual behavioral change
3) Network, lobby and advocate for issues of youth affected and infected by Aids.

- Use of highly active antiretroviral therapy (HAART) among Young People Living with HIV was studied by, et al, (2003). Almost all youth had been offered HAART. Compared to non-users, users were more likely to be females. Users were more likely to have: AIDS, positive coping styles, social support, and a high quality of life and were less likely to perform sexual-risk acts, and use substances.

- Weaver, et al, (2004) examined the relationship between three HIV-specific coping strategies (cognitive coping strategies, denial, and religious coping) and quality of life (QoL) in HIV+, predominately minority women on highly active antiretroviral therapy (HAART). Religious coping was unrelated to QoL; however, use of cognitive coping strategies was related to greater QoL. Stress was perceived as a mediator of the relationships between denial and cognitive coping strategies and QoL. Results suggest that utilization of certain coping strategies may lessen perceptions of life stressfulness, thereby influencing QoL.

1.6 PREVENTION

Over the years, there has been a steady increase in the number of AIDS cases seeking treatment in various hospitals across the country. Although HIV disease is typically caused by behaviors under voluntary control, these behaviors are often difficult to change because they can be satisfying. This makes successful prevention, interventions difficult. The obvious focus of prevention is and should be keeping uninfected people from becoming infected. Exploring areas such as the personality
correlates, and issues such as high risk taking, patterns of intimacy, substance use and abuse and sexual relations, provide valuable information and assistance in preventing the spread of the epidemic. In the absence of any treatment, prevention is the only hope for overcoming this fatal disease.

According to Carballo and Solby (2001), Transmission of HIV is essentially a behavioral phenomenon that revolves around the personal actions of the individuals. People engaging in sex relationships may or may not know about the dangers of HIV, the way in which it is transmitted from one person to another and the way in which it can be prevented. Prevention is the key to reducing infection rates and ultimately defeating AIDS. Education, awareness, knowledge and motivation are the most powerful weapons to fight this epidemic.

Preventing the spread of HIV means imparting easily understood and acceptable information to people so that they can take steps to avoid exposing themselves and their partners to the virus and the dreadful disease. To change the unsafe behavior practices and reinforce safe behavior people have to

- Know how HIV, the AIDS virus is transmitted from one person to another
- Have the motivation to prevent it from happening to them and their loved ones
- Believe they have the power to change and control their lives
- Be willing to practice safe sex
- Have access to and be able to use existing methods for reducing the physical risk of transmission (Carballo and Solby, 2001).

As explained by Sharma (2004), Prevention is mainstay of the response to AIDS and ABC of AIDS prevention is:

- A stands for Abstinence: not engaging in sexual intercourse or delaying sexual initiation.
- B means Being Safer: by being faithful to ones partner or reducing the number of sexual partners.
- C means Correct and Consistent Condom Use: Condom reduce the risk of HIV transmission for sexually active young people.

Mohan (2005) studied and concluded that the only prevention option available today is to prevent it by observing practices that are safe. The prevention practices suggested by her are as follows:
1. Sexual Intercourse: Abstinence from sex before marriage, Sex with only one partner and use of condoms for safe sex.

2. Transmission through blood: Use of sterilized syringes, injections from qualified doctors only and properly tested blood for blood transfusions.

3. Mother to Child: Breast feeding is the best option, bottle milk gets risky at times, and an HIV infected mother should be well informed about the conditions and effects in the inborn child.

1.6.1 Measures of Prevention:

There are various ways in which these can be imparted:

A) Creating Awareness:

- **Ending Silence Stigma and Shame:** The fear of stigma and deep rooted discrimination makes young people less likely to adopt preventive strategies such as condom use, seeking testing for HIV and other STIs, adhering to treatment or disclosing their HIV status to sexual partners. This silence must be broken; by challenging the stigma and eliminating the shame associated with HIV/AIDS.

- **Provide people with knowledge and education and create social mobilization:** People can not protect themselves if they do not know the facts about HIV/AIDS. Adolescents specially must learn the facts before they become sexually active and the information needs to be regularly repeated to them. They tend to have a feeling of “This can not happen to us” (Mohan, 2004), which can be really risky and dangerous at times. This education should be both in the class rooms and beyond, the knowledge can be imparted, through schools, through community, through the use of Media, AIR FM, and All India Radio, voluntary blood donations, through advocacy, and Youth friendly health services (NACO, 2000-01 and UNAIDS, 2002).

- **Peer Group Interventions:** Since the young people follow group norms, the prevention programs can be aimed at enhancing social competence skills. There can be an increased and improved communication about the topics such as safe sex, and AIDS awareness. Also a positive peer relation and social behaviour can create a difference and awareness in people hence making it easy for change of behaviors to occur (Malhotra, 2005).
Work with young people, promote their participation: Energetic, enthusiastic and creative, young people are a tremendous resource in all areas of HIV prevention and care. Involving young people in prevention efforts educates them about HIV and gives them a sense of responsibility and pride. With the right skills, young people can be extremely effective messengers. This can be done effectively by peer group education, sex education and peer led strategy building and working (UNICEF, 2002; Singh, 2004). True youth participation is the partnership in which both young people and adults work together. Adults need to ensure the continuous information, trained, motivated and supported HIV prevention effort, and young people need to demonstrate commitment and be reliable and active contributors (WHO, 2002).

B) Equip people with life skills to put knowledge into practice: Behavior cannot be changed by knowledge alone. People need skills to put what they learn into practice. Skills in negotiations, conflict resolution, critical thinking, decision making and communication are most vital. These help individuals to relate to each other and work in groups, build self esteem, resolve disagreements, and resist peer and adult pressure to take unnecessary risks.

C) Promote voluntary and confidential HIV counseling and testing: Nine out of 10 people living with HIV/AIDS do not know they are infected. Yet studies have shown that young people have a strong interest in knowing their HIV status (UNICEF, 2002). Voluntary and confidential HIV counseling and testing (VCT) is an important tool for preventing HIV. Safety and risk reduction can be reinforced if one has negative results and a positive result individual must receive referrals for care.

D) Safe Sex:

Control STD and Condom promotions: For the effective control of the STDs and HIV control this is a vital step that is and should be taken. This can be helped by:

- Free supply and distribution of condoms
- Social marketing campaigning and
- Commercial distribution of condoms
E) Targeted Interventions: The categories of people who are at a higher risk of acquiring and transmitting HIV infection must be pinpointed. The basic purpose of the Targeted Intervention program is to reduce the rate of transmission among the most vulnerable and marginalized populations. This may include, behavior change communications, counselling, provide health care support etc (NACO, 2001).

F) Youth Ambassadors:
   - Engage people who are living with HIV/AIDS: A major challenge in HIV prevention is to convince young people that HIV/AIDS can strike them or anyone. Most effective way to do this is for young people living with HIV/AIDS to share their own experience. They can reinforce information about the need to adopt and maintain safe behaviors. They can more than anyone else can convey the message to make efforts that no one else contracts HIV as they did.

G) Reach out to people who are most at risk:
   This is the most difficult challenge, but most important one. This includes both, to protect young people and to prevent the spread of the epidemic. The people at high risk of contracting HIV are
   - Males having sex with males
   - Children living on streets
   - Young refugees
   - Children orphaned by AIDS
   - Drug users and sexually exploited people (UNAIDS, 2002).

1.7 AIMS OF THE PRESENT STUDY

HIV is now a global epidemic and constitutes one of the most formidable challenges to development and social progress. In the most affected countries, the epidemic is eroding decades of developmental gains, undermining economies, threatening security and destabilizing societies.

AIDS is on the increase in India, ever since 1998. Today it is estimated that over 5 million people are suffering from the deadly disease. Friedland (1986), shocked the New York City with a news that AIDS was not strictly a disease of gay promiscuous men. He uncovered multiple cases among heterosexuals, both male and female, who were also intravenous drug users.
AIDS is transmitted only when contaminated blood and body fluids come in contact with the blood mucous membranes of healthy individuals. (This has been elaborated under the heading of Causes).

When AIDS emerged from the shadow, two decades ago, few people could predict how the epidemic would evolve, and fewer still could describe with any certainty the best ways of combating it. Though medical sciences have enough evidence on the cause and spread of HIV/AIDS, unfortunately very few studies are available which link and relate certain personality variables and their psychological impacts to high risk taking behavior, which subsequently may lead to acquiring AIDS.

On the basis of the above, it is proposed that there is a dire need for inquiry into the psychological factors which may predispose an individual to indulge in high risk behavior.

Thus, the objective of the present investigation was to find, if psychological factors such as Personality and its correlates namely, Extraversion, Neuroticism, Conflict Resolution, Need for Approval, Anger, and Self Esteem, have a relation with sexually high risk taking behavior and thus acquiring HIV/AIDS. The following are the aims of the study:

- To identify the Personality correlates of HIV positive individuals, namely, Extraversion, Neuroticism, Conflict Resolution, Need for Approval, Anger and Self Esteem. It is an endeavor to give those proper directions and assistance in acquiring satisfactory modes of adjustment and help them learn to conform to the mode of conduct appropriate and acceptable to the society.

- Conflict resolution is a function of individual’s psychological needs and appropriate situation for their expression. Frustrations and obstructions in the satisfaction of needs can result in behavior detrimental for ones growth and sound personality development as well as for the well being of society. The study aims in determining what strategies of Conflict Resolution predispose an individual to take high risk sexual behavior.

- The environment of people is marked by a high Need for Approval. People fall prey to the fear of rejection, try to maintain social desirability and under group pressures might involve in high risk taking behavior. The study aims to find whether high Need for Approval leads to high risk taking sexual behavior.
• Frustrating circumstances may lead an individual to frustrating situations. The study aims to find whether Anger influences indulgence in high risk taking sexual behavior.

• Individuals fall prey to peer group pressure and the basic reason for this lies in the poor Self Esteem of an individual. The study aims to find whether individuals with lower Self Esteem are at a higher risk of getting involved in high risk taking sexual behavior.