

## HIV - A Growing Epidemic in Pakistan

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### Abstract

HIV (Human Immunodeficiency Virus) is a worldwide scourge that influences the existence of numerous people yearly. There is a broad exploration on HIV/AIDS that permits the analysts to find an ever-increasing number of conceivable prudent steps to control or forestall HIV. The fundamental objective of HIV is the insusceptible arrangement of the host. It assaults the CD4++ T cells, macrophages, and dendritic cells. A portion of the preventive measure proposed by the respectable medical care specialists contains rehearsing ensured sex and taking part in testing of blood examples and other body liquids at standard stretches. The significant reasons are that the populace is occupied with high-hazard rehearses, misleading blood bindings, and low mindfulness about HIV. Pakistan is more powerless against HIV soon because of having India as a neighbor. HIV pestilence is making disgrace in India as the two nations share borders so Pakistan is in high danger of procuring HIV. The Institute for Health Metrics and Evolution (IHME) at the University of Washington has revealed that Pakistan is at high danger regions in regards to HIV/AIDS and the numbers are accordingly expanding since 19897. This paper will cover the set of experiences and the current situation in Pakistan, the conduct of youth towards HIV/AIDS alongside conversation of Pakistani administrative part in controlling that hazards.

**Keywords:** *Human Immunodeficiency Virus; AIDS: Acquired Immunodeficiency Syndrom; Idus: Injecting Drugs Users; FSWS: Female Sex Workers; MSWS: Male Sex Workers*

### Abbreviations

HIV: Human Immunodeficiency Virus; AIDS: Acquired Immunodeficiency Syndrom; IDUs: Injecting Drugs Users; FSWS: Female Sex Workers; MSWS: Male Sex Workers

### Introduction

HIV has a place with Lentivirus and is furthermore known as “moderate advancing infection”. The name shows its method of activity. At the point when it enters the body, it stays there for quite a long time without displaying the sign and side effects. Its capacity to reproduce in non-isolating cells is remarkable. It likewise has the property of being embedding the data to the host DNA. These attributes make it the most effective quality conveyance vectors [1]. HIV impacts the body’s safeguard/insusceptible cells CD4+, T cells, macrophages, and dendritic cells [2]. The CD4+ cells have an additional common impact in the general safeguard of the body against unfamiliar intruders. After the disease, the quantities of CD4+ cells begin declining, and the insusceptible framework breakdown [3]. The advancement from HIV to AIDS could be shown by the abatement of CD+ cells. The quantities of cases in Pakistan are expanding at a disturbing rate. The quantities of announced contaminations in Pakistan from 2005 to 2015 expanded from 8,360 to 45,990 cases, the most elevated world-

wide increment normal of 17.6% in the set of experiences. The University of Washington executed an examination study and found that the quantity of death in Pakistan because of HIV/AIDS expanded from 350 to 1,480 from 2005 to 2015. This demonstrates a normal of 14.2% each year. Antiretroviral treatment a medication system that is utilized to treat HIV/AIDS isn't effectively accessible in Pakistan. A couple of patients with HIV are getting antiretroviral treatment. The main cases were accounted for in 1987 and the cases are continually expanding as indicated by the report of the Pakistan National AIDS control program.

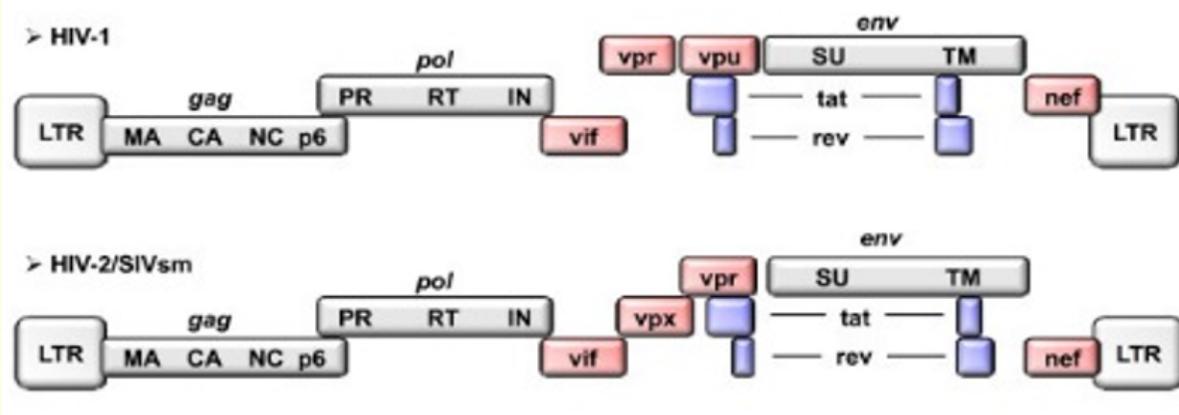


Figure 1: This figure is super maps of HIV-1, HIV-2 and SIV genome.

Numerous elements contribute to the pervasiveness of HIV in Pakistan and effects serious tests to the medical services specialist to battle the plague [4]. In South Asia, Pakistan is perhaps the most thickly populated country and has a 65% of proficiency rate. The significant justification for the development of a high populace is an absence of family arranging and the absence of utilization of contraceptives. Due to the absence of training and social and social boundaries against family arrangements, the treatment and counteraction of HIV/AIDS have gotten more troublesome. As per the reports of the Health Department, by 2015 6,853 patients with explicitly sent infections (STDs) were enlisted [5].

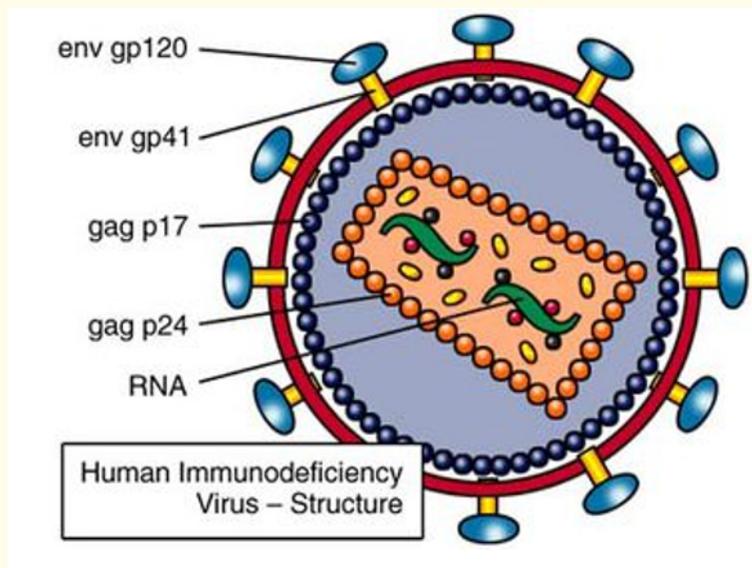
### Types of HIV

There exist two kinds of HIV, HIV-1, and HIV-2. The most harmful and pat clean strain is HIV-1. HIV-1 is the transcendent infection around the world. At the point when individuals are alluded to HIV without determining the sort of HIV, they are for the most part alluding to HIV-1. HIV-2 is generally less predominant and is remarkable and is packed in the west of Africa yet not discovered somewhere else. The reason is that HIV-2 debilitates the unsusceptible framework gradually than HIV-1 [6]. HIV-1 is additionally partitioned into four gatherings; a (significant gathering M, b) Outlier gathering (O, c) Group N, d) Group P. The distinguishing proof of these gatherings is their wrap area. Gathering M is assists partitioned into A, B, C, D, E, F, G, H, J, and K. B and C are the most prevalent clades of HIV-1 in Asian nations. In any case, in Pakistan just HIV-1 is prevailing when contrasted with different clades, this was found in IDUs in Karachi. HIV-2 has likewise 8 clades from A to H however just A and B are pestilence [7].

**HIV virology and life cycle**

Both RNAs are surrounded by the viral envelope composed of phospholipids. The envelope contains proteins from the host cell and about 70 copies of HIV complex proteins called envelope proteins [11]. RNA comprises 7 genomic structural elements and 9 genes. These elements are LTR, TAR, RRE, SLIP, PE, INS, and CRS. These are nine in number; *gag*, *pol*, *env*, *tat*, *rev*, *nef*, *vif*, *vpr*, *vpu*, and *tev*.

1. *Gag* is a group that encodes the gag polyprotein.
2. *Tat* is a trans-activator of HIV gene expression.
3. *Env* protein comprises of cap made up of three molecules called glycoprotein 120, and a stem comprised of gp 41 molecules that enable the virus to attach and fuse with the target cells.



**Figure 2:** This diagram shows the structural glycoproteins of HIV.

HIV exists as a rough spherical particle outside a human cell. Then these HIV particles surround themselves with a fatty material known as an envelope. The envelope formed by gp120 and gp 41 has about 72 little spikes projecting outside. Protein P17 made the layer of the matrix below the envelope. Protein P24 made the viral capsid which is of bullet shape. Inside the core, there are three enzymes required for HIV replication reverse transcriptase, integrase, and protease.

HIV starts its life cycle by attaching to CS4 receptors, fuse with the target cell and release its DNA into the host cell [12]. The RNA is converted into DNA by reverse transcriptase. Newly formed DNA is incorporated into the host cell and the enzyme hides it within the cell's DNA. Now, this is called 'Provirus' and this may remain in the host cell for several years. When the provirus receives a signal to be active, they use a host RNA polymerase to make messenger RNA. The mRNA makes long chains of HIV which cuts with the help of protease. The newly formed virus now pouches out from the cell [13].

**Sexually transmitted diseases STDs**

Explicitly communicated illnesses are the disease that is procured through unprotected sex or oral sex and are brought about by 30 distinct kinds of bacterial, infections and protozoa. There are various approaches to diminish or forestall the disease yet just a single method to forestall the spread of STD is finished restraint from sex. Rehearsing safe sex by utilizing condoms and having fewer sex accomplices are a few techniques to forestall the likelihood of contamination. Another anticipation technique is to guarantee that one accomplice is sans std by testing and extricating DNA [14]. Be that as it may, these tests are not so exact particularly if there should arise an occurrence of human papilloma infection (HPV). Accordingly, for additional anticipation and assurance, different immunizations like hepatitis A, hepatitis B, and HPV could be utilized. As per the realities given by medical care laborers, individuals feel modest from visiting specialists when they show the sign and indications of explicitly communicated sicknesses on their genitalia. It is vital to arrange routine testing of body liquids that the individual has an STD or not. The probability of the fruitlessness increments, if the patient doesn't come for an early exam and their contamination stayed undiscovered [15]. Specialists can't prevent individuals from having sex however no one but can instruct the local area about related dangers and guide them to have secured sex, utilizing condoms and dodging sexual contact on the off chance that one of the accomplices is contaminated [16].

**Situation of Pakistan and mentality of people regarding HIV**

The predominance of STDs is alarmingly high in Pakistan, particularly in male people. The STD rate in men in metropolitan zones in assessed to be (Table 1).

Sr. No	City	STD Rate (%)
01	Karachi	8.5
02	Lahore	5.3
03	Faisalabad	4.0
04	Quetta	4.3
05	Rawalpindi	2.5
06	Peshawar	2.0

*Table 1: The STD rate in men in metropolitan zones.*

The National AIDS Control Program executed an investigation and tracked down that the contamination rate is as high as 60% in trans-sexes and 36% in male sex laborers [17]. Low mindfulness about security against the dangerous infection in poor and working-class regions the number of cases are expanding step by step. These STDs are known to encourage the sexual transmission of HIV. The most in danger in Pakistan are individuals who infuse drugs (PWID), trans-sexual orientations, people, male and female sex laborers with a pace of 27.2%, 5.2% 1.6% 0.6% separately [18]. There is solid proof as indicated by Fleming and Washerries, that the new examples of medication use and moves to infusing in a specific in a significant factor in contributing to the quick transmission of HIV in drug clients [19]. HIV manifestations for the most part show up after around 2-3 months after intercourse with a contaminated individual, AIDS indications may require numerous years to show up. Even though it was first found in Africa however there are at present 42 million patients of HIV/AIDS and demise because of the infection were over 3.1 million [20].

**Poverty**

More than 58.7 million individuals in Pakistan are living beneath the neediness line as per the reports of the Sustainable Development Policy Institute (SPDI) [21]. Because of the low family pay these people come up short on essential offices like medical services

and training. Likewise, HIV/AIDS conveys a significant measure of shame and is socially inadmissible in Pakistan. In-country regions of Pakistan, individuals are embarrassed to look for clinical treatment; subsequently, they face hazardous results. This is because of the low proficiency rate and high neediness [22].

There are different factors because of which the treatment of HIV/AIDS has gotten testing. These include (1) inescapable neediness; (2) huge awkwardness among people; (3) work movement for occupations; (4) absence of clinical assets to test HIV positive individual; (5) undeniable degree of medication use; (6) low condom use; (7) low degree of mindfulness among wellbeing laborers; (8) utilization of needles without disinfection. Pakistan is an exceptionally moderate country in the conversation of sexual exercises and family arranging [23]. Prophylactic ads are restricted because of the strict bodies since they think it is 'indecent' and against the strict standards of Islam. Pakistani Electronic Media Regulatory Authority (PEMRA) has additionally restricted any kind of commercial about condoms [24]. The UNAID programs delegates likewise refer to that low instruction and high neediness are the factor which power ladies to become sex works, which brings about the high pace of STD transmission in Pakistan.

### Gender inequality in Pakistan

Sexual orientation imbalance is likewise of the significant explanations behind the spread of HIV/AIDS in Pakistan. Because of low financial status, ladies in Pakistan face segregation, lower portability, and low choice force when contrasted with men, which leave them defenseless against HIV/AIDS [25] The proficiency pace of ladies in Pakistan is simply 35% while of men is 60%.

### The epidemic groups

Responsible for HIV/AIDS transmission are 11 major core groups. IDUs (Injecting Drug Users) and FSWs are the main groups for the transmission of HIV in Pakistan [26].

- **Female Sex Workers**

There is around 136,000 FSWs cross country as per the extrapolation of reconnaissance information 2005. It is assessed that in 8 significant urban areas of Pakistan there exist 34,000 FSWs [27]. The high quantities of FSWs are diminishing in houses of ill-repute and are setting in local locations. The inns, stations, side of the road, markets, rail route stations, emergency clinics, and stopping are arising as major simple admittance to FSWs. The simple admittance to these FSWs is a result of the boycott in Kothikhana and moving. They are currently days dwelling in business and neighborhoods. FSWs are matured between 13-45 years [28].

- **Prisoners**

The administration of Sindh in 2009 has set up a program to give HIV testing offices to the detainees at Karachi, Hyderabad, and Sukkur. During jail, they avoid their families that is the reason the majority of them enjoy such exercises. To help them know about their HIV status, they are given classified volunteer directing and testing administrations [29]. Detainees from age 10 - 59 are tried against HIV. Out of 4987 detainees, 49 were positive and the vast majority of them were IDUs.

- **Truck drivers**

The gigantic populace from the Pakistani ancestral zones is transporters. They now and again travel far away from their homes, families, and even to different nations contiguous Pakistan. Due to drag out nonattendance from home they are enjoyed sexual

exercises with laborers and easygoing accomplices. This makes them a high danger bunch concerning the spread of HIV/AIDS. They additionally include sex with females and other sex laborers [30]. Out of the 60% are hitched and quarter occupied with business and non-business additional military sex and they once in a while use condoms. There exist 1% HIV predominance in transporters in Lahore.

- **Miners**

Balochistan AIDS Control program says that there are around 10,000 diggers from one side of the country to the other. They stay far away from their homes for quite a long time and in any event, for quite a long time. An examination from one area uncovered that 42% engaged in sexual relations with their partners [31].

- **Migrants**

Low gifted countrymen who travel to different nations for work are transients. They are likewise seen to enjoy sexual exercises being away from home. They have become survivors of HIV because of perilous sex. The greater part of them has a place with the far-off regions of Pakistan like FATA, Balochistan, and KPK. A significant populace of Pakistani traveler dwells in Gulf nations [32]. More than 2 million individuals are working in the Middle East. They likewise communicate HIV/AIDS to their mate.

- **IDUs and their spouse**

As indicated by reports IDUs are the center gatherings driving the plague cross country having the most noteworthy predominance pace of about 20.8%. As indicated by 2008 details there are around 100,000 road-based IDUs in Pakistan of which HIV positive is 21%. In Pakistan, explicitly dynamic IDUs are 95% and 38% have standard sex accomplice. Because of unprotected and inconsistent sex, absence of assurance information, and absence of condom use, the mate of IDUs are at moderate danger of securing HIV/AIDS [33]. They normally go to quacks for infusions. They utilize the mixed drink of Diazepam and Pheniramine which is promptly accessible in Pakistani drug stores and sadly here and there given without remedy. Most mates of IDUs alongside their significant other utilize the medications with the same needle [34].

- **Male sex workers (MSWs)**

Being an Islamic state, Sex work is unlawful in Pakistan. Be that as it may, tragically, the country's long history and blasting industry. The most disturbing circumstance is that there is a high pace of male to male sex in Pakistan than male to female sex [35]. Male sex laborers are more in large urban communities like Karachi, Hyderabad, and Lahore. The MSWs are additionally partitioned into gatherings.

- **Trans-genders (Hijras or Khusras)**

The aggregate term utilized for trans-sexes in Pakistan is Hijras. They are naturally male however frequently completely emasculated. They are more powerless against HIV since they are a separate accomplice in butt-centric sex [36].

- **Zenanas and chavas**

Zenanas are men however perceive themselves as female sex. They portray themselves as female and financially offer sex to different accomplices. They frequently wed a female and have youngsters yet in ex they accept female job [37]. Chavas can switch their sexual job.

- **Giryas**

These individuals wed Hijras and zenanas and assume the spouse's part

- **Maalshias**

These are youngsters who fill in as massagers on the roads and sell sex. Male sex laborers are second danger gathering to HIV after IDUs [38].

### Factors spreading HIV in Pakistan

- **Transmission of HIV from mother to infant**

As indicated by an assessment, 2.3 million youngsters are living with HIV/AIDS around the world. Most of these are from Asia and southern Africa. The main wellspring of transmission of HIV from mother to youngster is during pregnancy, bosom taking care of, and labor. Pakistan has not saved HIV [39]. The mother and youngsters with HIV are revealing themselves around the country.

- **Barber shops, beauty saloons**

A hairdresser has to offer shape, trim any sort of hair, and manage facial hair. Stylist varies from beautician. Barbering is an old calling. HIV transmission-related cases are accounted for in Nigeria and other African nations. The primary explanation is they reuse the sharp edges and razors. A new report led in 250 magnificence cantina of Karachi and it uncovered that there are critical opportunities to have cuts during nail treatment and pedicure. The uncovered zones have a high danger of getting HCV or HIV 40].

- **HIV transmission in Pakistani youth**

Like other youngsters, Pakistani youth is likewise exceptionally inquisitive about sex and medications. They are vigorously affected by their friends during the juvenile time of framing propensities and virtues [41]. Public AIDS Control Program (NACP) in 2005 recommended that the Karachi road youngsters debut sex at the age of 13-15 years and 30% of them had offered sex to people. About 80% don't utilize condoms and if the choice of utilizing condoms was taken, it was taken by a senior sex accomplice [42]. The purpose for such unpleasant circumstances is joblessness, simple accessibility of medications, financial dissatisfaction that impact of youth to enjoy such exercises and expanded danger of HIV disease [43].

### Diagnostic methods of HIV/AIDS in Pakistan

NACP (public AIDS Control Program) has assumed the liability of this immense undertaking to lessen the spread of HIV in Pakistan. The fundamental motivation behind HIV testing is to instruct the NGOs, government, and private medical clinics on how to manage the HIV/AIDS patient 44]. There are various strategies to test HIV in Pakistan. The most significant and ordinarily utilized techniques for testing incorporate sub-atomic and serological recognition [45]. The standard practices with various age bunches are as per the following;

#### Less than 18 months

The infants of HIV-tainted moms are more suspected of HIV contamination. These babies are tried through PCR half a year after birth [46]. Counter-acting agent test could likewise be utilized for screening however the outcomes won't be precise because at this stage a large portion of the kids lost the maternal antibodies and shows positive outcomes in ELISA [47].

### 18 months of age and up to 12 years

ELISA or the western Blot method is utilized to distinguish HIV/AIDS at this age. Youngsters with over a year and a half yet on breast-feed should stop breastfeeding before immunizer testing [48]. This test ought to likewise be rehashed following a half year of stopping breastfeeding.

### Counseling of children under 12 years of age

When the trial of youngsters, the guiding interaction is vital. On the off chance that the youngsters are not developed, they ought to be directed within the sight of guardians [49].

### Discussion

A couple of year prior the main condom producing organization broadcasted a business to advance the utilization of condoms, the possibility of carrying on with better and better lives [50]. In any case, there stimulated limited contention about such ads to cross country and the PEMRA quickly prohibited the business. To create procedures for the control of AIDS Pakistani government in 2001 built up a National HIV/AIDS key Framework. Before long NGOs are as yet working and there were 45 non-administrative associations were engaged with HIV/AIDS mindfulness crusade [51].

### Conclusion

In western nations, sex instruction is a significant piece of the educational plan. In Pakistan, youthful grown-ups don't get sex schooling since it is viewed as a generally private and individual thing. Guardians don't urge their kids to go to any sex mindfulness program and even don't teach them. For the most part, youngsters are encouraged not to observe any commercial that advances safe sex, condoms, or contraceptives [52].

Pakistan is an Islamic country and it is viewed as deceptive and strange to teach youngsters about ensured sex and counteraction of STDs in school. Subsequently, kids and grown-ups have pretty much nothing – to-no information about ensured sex and measure to stop the spread of HIV/AIDS [53]. There is an extraordinary possibility of a reaction from the strict and moderate gatherings if the public authority presents sex schooling as a piece of an educational program.

The Higher Education Commission of Pakistan made a procedure to visit schools and colleges every year to direct workshops about HIV/AIDS [54].

### Bibliography

1. Yousaf MZ., *et al.* "The epidemic of HIV/AIDS in developing countries; the current scenario in Pakistan". *Virology Journal* 8.1 (2011): 1-7.
2. BCM vector developing Laboratories.
3. Health News, First Target cells of HIV identified.
4. HIV types, groups and subtypes.
5. McGovern SL., *et al.* "A common mechanism underlying promiscuous inhibitors from virtual and high-throughput screening". *Journal of Medicinal Chemistry* 45.8 (2002): 1712-1722.

6. Hagerstone MD. "Lippincott's Illustrated Reviews Series: Microbiology". Edited by: Richard A Harvey. 2 (2007): 03.
7. HIV sequence database (2010).
8. UN Population Division Annex (2009).
9. What is HIV.
10. National AIDS Control Program, HIV/AIDS Surveillance Project (2005).
11. United Nation General Assembly Special Session on HIV/AIDS Pakistan (2010).
12. Jami h: Condition and status of Hijras (Transgender, Transvestites etc) in Pakistan, in Ist international conference of Asian Queer Studies (2005).
13. Altaf A., *et al.* "Men who have sex with men: New emerging threat of HIV/AIDS spread in Pakistan". *Journal Of Pakistan Medical* 58.8 (2008): 419-420.
14. Blanchard J., *et al.* "Variations in the population size, distribution and client volume among female sex workers in seven cities of Pakistan". *Sexually Transmitted Infections* 84 (2008): 24-27.
15. Adnan AKhan and Ayesha Khan. "The HIV epidemic in Pakistan". *Journal Of Pakistan Medical* (2010).
16. National AIDS control Program, The Family Health International, The Pakistan Medical and Research Council. The National Study of Sexual and Reproductive Tract Infections (2004).
17. Preventing HIV/AIDS in Pakistan, The World Bank report of (2005).
18. Arulogun SOyedunni, Adesoro OMoses: Potential risk of HIV transmission in barbering practice among barbers in Ibadan, Nigeria 9 (2009): 01.
19. Pedicure may not look drop dead gorgeous if it kill you.
20. National AIDS control program, UNICEF. Situational analysis of adolescents in 10 districts of Pakistan (2005).
21. National AIDS control Program Referral Lab.
22. United Nation Statement on HIV in Pakistan.
23. Economic Survey, Government of Pakistan 1999-2000.
24. USID HIV/AIDS Health Profile Pakistan.
25. Hussain A., *et al.* "HIV/AIDS-A Growing Epidemic In Pakistan". *Journal of Evolution of Medical and Dental Sciences* 7.8 (2018):1057-1062.
26. Illicit drug trends in Pakistan. United Nations: Office on Drugs and Crime Country Office, Pakistan. The Paris Pact Initiative: a partnership to counter trafficking and consumption of Afghan opiates (2008).
27. Bhatti AB., *et al.* "Current scenario of HIV/AIDS, treatment options, and major challenges with compliance to antiretroviral therapy". *Cureus* 8.3 (2016): e515.
28. Tahir S. "Injecting drug use and the risks of HIV infection: a case study of HIV and AIDS awareness in the red light district of Pakistan". 1st edition. Saarbrücken: LAP Lambert Academic Publishing (2010).

29. Yusufzai A. "Pakistan starts HIV treatment programme". *BMJ* 332.7532 (2006): 10.
30. Farid-Ul-Hasnain S and Krantz G. "Assessing reasons for school/college dropout among young adults and implications for awareness about STDs and HIV/AIDS: findings from a population-based study in Karachi, Pakistan". *International Journal of Behavioral Medicine* 18.2 (2011): 122-130.
31. Chan R. "Sexually transmitted infections in Asia and the Pacific--an epidemiological snapshot". *Sexually Transmitted Infections* 87.2 (2011): ii14-15.
32. Ilyas M., et al. "A situational analysis of HIV and AIDS in Pakistan". *Virology Journal* 8 (2011): 191.
33. Saleem NH., et al. "Risky sexual behavior, knowledge of sexually transmitted infections and treatment utilization among a vulnerable population in Rawalpindi, Pakistan". *Journal of Pakistan Medical Association* 63.1 (2013): S16- S20.
34. Faisel A and Cleand J. "Migrant men: a priority for HIV control in Pakistan?" *Sexually Transmitted Infections* 82.4 (2006): 307-310.
35. Burn S and Horner PJ. "Rectal gonorrhoea as an independent risk factor for HIV infection in homosexual males". *Genitourinary Medicine* 71.5 (1995): 335-336.
36. Hasnain M. "Cultural approach to HIV/AIDS harm reduction in Muslim countries". *Harm Reduction Journal* 2 (2005): 23.
37. Han N., et al. "HIV and aging: insights from the Asia Pacific HIV Observational Database (APHOD)". *HIV Medicine* 16.3 (2015): 152-160.
38. Qidwai W. "Knowledge about sexually transmitted infections among young Pakistani men". *Journal of Pakistan Medical Association* 52.6 (2002): 267-268.
39. Condom ads banned by Pemra DAWN.COM (2016).
40. Stangl AL and Grossman CI. "Global action to reduce HIV stigma and discrimination". *Journal of the International AIDS Society* 16.3-2 (2013): 18934.
41. Farid-Ul-Hasnain S., et al. "What do young adults know about the HIV/AIDS epidemic? Findings from a population based study in Karachi, Pakistan". *BMC Infectious Diseases* 9 (2009): 38.
42. HIV seroprevalence surveys in Pakistan.: HIV Seroprevalence Study Group of Pakistan". *AIDS* 10.8 (1996): 926-927.
43. Sifferlin A. Why Schools Can't Teach Sex Edition Time.
44. Hunger KFH. "Education at school about sexually transmitted diseases". *The British Journal of Venereal Diseases* 52.2 (1976): 100-101.
45. Otho SM., et al. "FSWs typology and condoms use among hiv high risk groups in Sindh, Pakistan: a developing country perspective". *Online Journal of Public Health Informatics* 5.1 (2013): e141.
46. Khandwalla HE., et al. "Knowledge, attitudes, and practices regarding sexually transmitted infections among general practitioners and medical specialists in Karachi, Pakistan". *Sexually Transmitted Infections* 76.5 (2000): 383-385.
47. Bergenstrom A., et al. "Drug- related HIV epidemic in Pakistan: a review of current situation and response and the way forward beyond 2015". *Harm Reduction Journal* 12 (2015): 43.
48. Farid-ul-Hasnain S., et al. "Need for multilevel strategies and enhanced acceptance of contraceptive use in order to combat the spread of HIV/AIDS in a Muslim society: a qualitative study of young adults in urban Karachi, Pakistan". *Global Journal of Health Science* 5.5 (2013): 57-66.

49. Hasnain SF, *et al.* "Young adults' perceptions on life prospects and gender roles as important factors to influence health behaviour: a qualitative study from Karachi, Pakistan". *Global Journal of Health Science* 4.3 (2012): 87-97.
50. Alcohol can induce us to have unsafe sex. Pakistan News. One Pakistan: One people one Nation (2011).
51. Hashemi-Shahri SM., *et al.* "Sexually transmitted infections among hospitalized patients with Human Immunodeficiency Virus infection and Acquired Immune Deficiency Syndrome (HIV/AIDS) in Zahedan, Southeastern Iran". *International Journal of High Risk Behaviors and Addiction* 5.3 (2016): e28028.
52. Moazzam A and Ushijima H. "Emerging role of the private sector in HIV/AIDS disease prevention in Pakistan". *Tropical Doctor* 34.3 (2004): 189-190.
53. Narain JP. "Three decades of HIV/AIDS in Asia". 1st edition. New Delhi: SAGE Publications (2012).
54. Pakistan. World Health Organization (2017).

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