

Prevalence of HIV in pregnant women identified with a risk factor at a tertiary care hospital

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Abstract

Background: HIV is an epidemic quite unlike any other, combining the problems of a lifelong medical disease with immense social, psychological, economic and public health consequences. Since we are living in a global village where human interactions has become fast and frequent, diseases like HIV are no more alien to us. HIV/AIDS in Pakistan is slowly gaining recognition as a public health issue of great importance. Objectives of this study were to determine the prevalence of HIV in pregnant women identified with a high risk factor/behaviour at a tertiary care hospital. It is a Descriptive study.

Method: All pregnant women attending antenatal booking clinic were assessed via a pre-designed 'Risk assessment questionnaire'. Women identified with a risk factor were offered HIV Rapid screening test (Capillus HIV1/2). Positive (reactive) results on screening test were confirmed with ELISA.

Results: During the study period (March 2007-May 2008), out of 5263 antenatal bookings 785 (14%) women were identified with a risk factor. HIV screening test was done in 779 (99%), and 6 women refused testing. Three women (0.3%) were found positive (reactive) on screening. Two out of 3 women were confirmed positive (0.2%) on ELISA. Husbands of both women were tested and one found positive (migrant from Dubai). Second woman had history of blood transfusion. Her husband was HIV negative. During the study period, in addition to 2 pregnant women diagnosed as HIV positive through ANC risk screening, 6 confirmed HIV positive women, found pregnant were referred from 'HIV Treatment Centre', Pakistan Institute of Medical Sciences (PIMS) to Prevention of Parent to Child Transmission (PPTCT) centre for obstetric care. Spouses of 5 out of 6 had history of working abroad and extramarital sexual relationships. All positive (8) women were referred to PPTCT centre for further management.

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Conclusion: A simple 'Risk Assessment Questionnaire' can help us in identifying women who need HIV screening. Sexual transmission still remains the commonest cause of HIV transmission.

Keywords: HIV/AIDS, PPTCT, Antiretroviral drugs, Pregnancy, Antenatal, STD, Risk Factor.

Introduction

HIV is an epidemic quite unlike any other, combining the problems of a lifelong medical disease with immense social, psychological, economic and public health consequences. Since we are living in a global village where human interactions has become fast and frequent, diseases like HIV are no more alien to us. HIV/AIDS in Pakistan is slowly gaining recognition as a public health issue of great importance.¹ The disease has followed all means of spread to engulf the Pakistani society despite its being a conservative one. The situation has become alarming from the fact that it took merely two decades from the detection of first HIV infected Pakistani in 1987^{2,3} to attain prevalence of 21%⁴ only in injecting drug users (IDUs), less talk about other high risk groups. The other such like groups which include, male sex workers, female sex workers and trans gender, are not far behind.^{5,6} The malice, supposedly introduced by Pakistani expatriates/deportees from Gulf States⁷ has gained sufficient grounds to become indigenous. Interconnections among these four high risk groups is serving as a bridge for HIV transmission to general population Based on above-mentioned facts, Pakistan is now categorised from a low-prevalent-high-risk country for HIV to a 'concentrated epidemic' country.^{1,4}

Once the high-risk populations have acquired the virus, it is only a matter of time before the general populace falls prey to it. IDU, commercial sex workers etc. facilitate in bridging this gap. What is alarming is the fact that once the virus moves from the urban population to the rural population, the effect will be much more catastrophic, not only because the bulk of Pakistani population resides here (only 34% lives in urban areas)⁸ but also due to almost non-existent healthcare facilities. Also our social setup is unique in a way that most of positive people either IDUs or sex workers are married and living with families thus,

facilitating the virus to jump from isolated groups into mainstream general population, especially to their spouses and thus to the future generations. In Pakistan male:female ratio for HIV infection is 7:1.⁹

Since the onset of this epidemic, marvellous research has been carried out all over the world to find ways to minimize the risks of mother to child transmission of HIV. These interventions include combination antiretroviral drugs (ARV) during pregnancy, elective caesarean section and avoidance of breastfeeding and are collectively called 'PPTCT interventions' (Prevention of Parent to Child Transmission of HIV). Without these PPTCT interventions, the risk of mother to child transmission of HIV is almost 30-40%¹⁰ that can be reduced to less than 2% with wide spread use of PPTCT interventions.^{11,12} Nevertheless, the key step to these interventions is to identify positive pregnant women first. Thus, antenatal HIV testing, though not mandatory has been gaining grounds as an essential part of antenatal care worldwide. In 2001, CDC recommended HIV to be a routine part of prenatal care for all women.¹³

Keeping in mind Pakistan's situation of a rapid progress to a concentrated epidemic and the high cost of screening test, it was not cost effective to offer HIV testing to all pregnant women thus we designed a 'risk assessment questionnaire' and offered HIV testing to women identified with any of the mentioned risk factor. The questionnaire used is shown in Table-1.

Table-1: Risk Assessment Questionnaire.

History	Self	Spouse
Occupation (Blood bank workers, Lab Technicians, Nursing staff, Surgeons & Truckers)		
Current/Past history of working aboard		
Past history of blood transfusion in last 5 years		
History of injecting drug abuse in last 5 yrs		
History of STI in last 5 years		
History of any dental treatment in last 5 years		
HIV in spouse		

Objective of the study was to see prevalence of HIV in pregnant women identified with a risk factor at a tertiary care hospital.

Material and Method

All pregnant women attending antenatal booking clinic were assessed via the "risk assessment questionnaire". Women identified with a risk factor were offered HIV Rapid testing (Screening test) after pre-test counselling, using a structured flip chart as a discussion guide. The

discussion focused on HIV transmission routes, benefits of knowing one's HIV status during pregnancy and ARV prophylaxis/ treatment available. Women who gave verbal informed consent had blood drawn by prick method. Maternal HIV status was determined on-site by using Capillus HIV 1 and 2 test kit. Women received their test report after thirty minutes same day. Thorough post-test counselling was done in all women irrespective of the results, thus improving women's general knowledge and awareness on HIV and various protection strategies according to their risk factor found. Reactive results on Capillus kit were confirmed with ELISA before declaring a positive report. Strict confidentiality was maintained for all patients.

Results

During the study period (March 2007-May 2008), out of 5263 total ANC attendances 785 (14%) women were identified with a high risk factor/behaviour. Mean age of these women was 27 years; 32% were primigravida while 68% were multigravida (Figure-1). Mean gestational age was 18 weeks. 18% never had formal education, 44% had education until Matric (SSC) while 62% were above Matric (Figure-2). Thirty-nine percent were residents of Islamabad capital tertiary, while 49% were from Punjab, 5% from NWFP, 2% from Baluchistan, 1% from Sindh, and 4% living abroad (Figure-3).

After pre-test counselling and consent, HIV Rapid Test was carried out in 779 (99%) women as 6 of them refused testing. Results of 3 women (0.3%) were found reactive on screening test. However, 2 out of the 3 women were confirmed positive (0.2%) on ELISA.

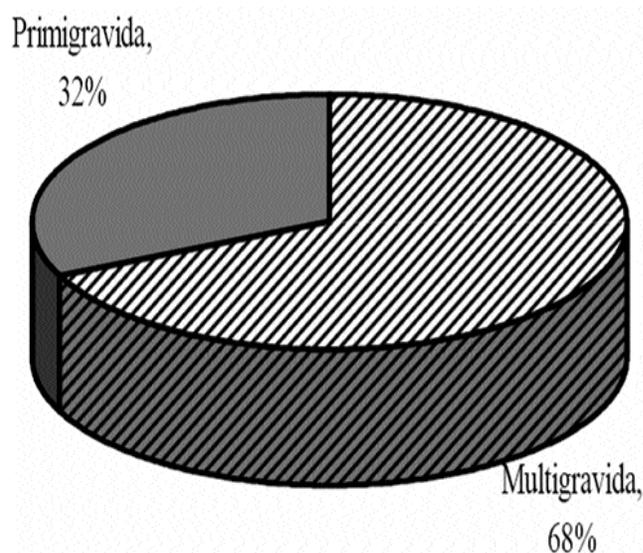


Figure-1: Parity of patients (n=785)

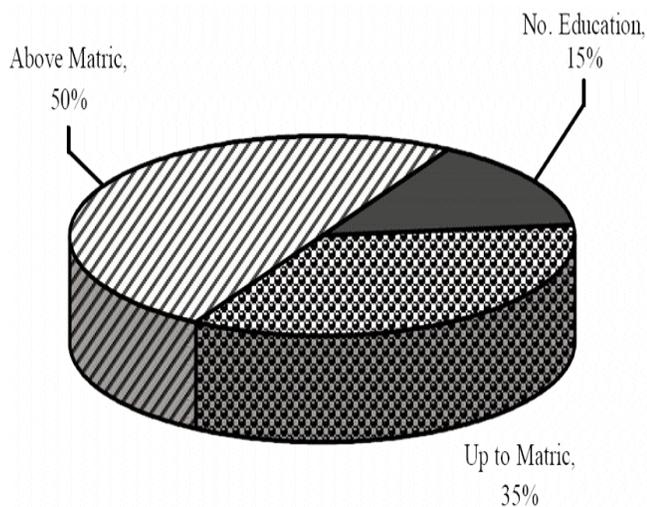


Figure-2 Level of education (n=785)

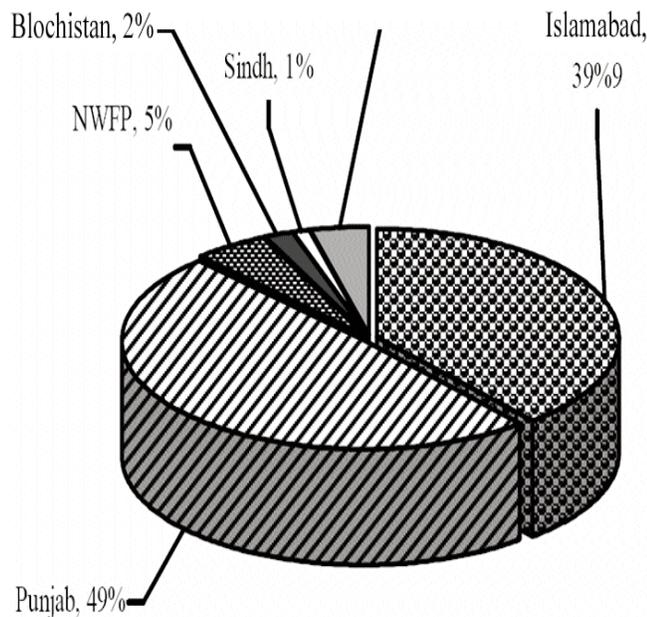


Figure: Comparison of comfort level with positioning between the two groups.

Husbands of both positive women were tested and 1 was found positive (deported from Dubai). Second woman had history of blood transfusion. Her husband was HIV negative (Table-2).

During the study period, 6 HIV positive pregnant women were diagnosed at 'HIV Treatment Centre' of PIMS through spouse testing. Husbands of five of them had history of working abroad and had been involved with commercial sex workers (CSWs). All positive (8) women were referred to PPTCT clinic for further management.

Table-2: Risk factors identified.

Indicators	No. (%)
ANC Booking	5263
Women identified with a risk factor (through ANC risk screening at PPTCT centre)	785 (14%)
Pre-test counselling	785 (100%)
Tested for HIV	779 (99%)
Women confirmed HIV infected	2 (0.20%)
Post-test counselling	785 (100%)
Husbands tested for HIV	41 (5.2%)
Husbands HIV infected	1 (0.10%)
HIV positive pregnant women referred from HIV treatment centre to PPTCT centre for obstetric care	6

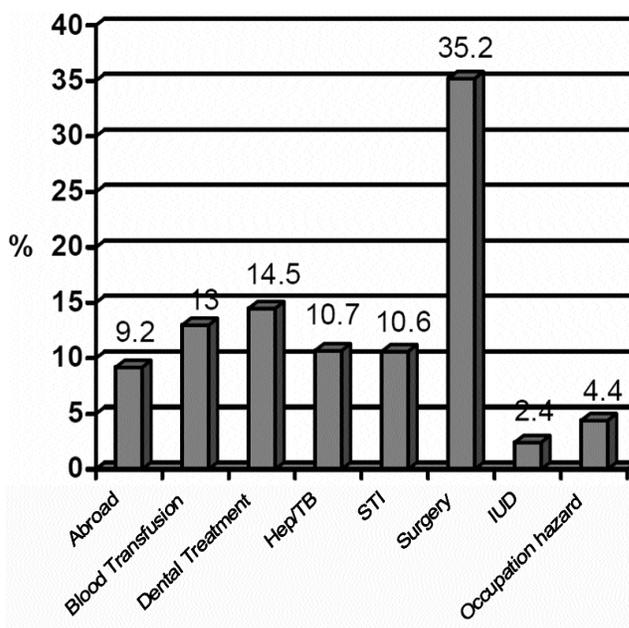


Figure-4: Risk factors identified.

Discussion

Pakistan, the second most populous Muslim country in the world has started to finally experience and confront the HIV/AIDS epidemic. While the prevalence of HIV in general population is still low (<0.1%),¹⁵ its geographic proximity to India-a country experiencing a severe HIV/AIDS epidemic, and several prevalent lifestyle risk factors make Pakistan a high-risk location for the diffusion of HIV.¹⁶ The closely weaved social network coupled with high prevalence injecting drug use, unsafe sexual practices and low self-risk awareness^{17,18} indicate that there is high potential for rapid spillage to the families of high-risk groups thus reaching the general population followed by transmission to future generations. Detection of maternal infection early in pregnancy through

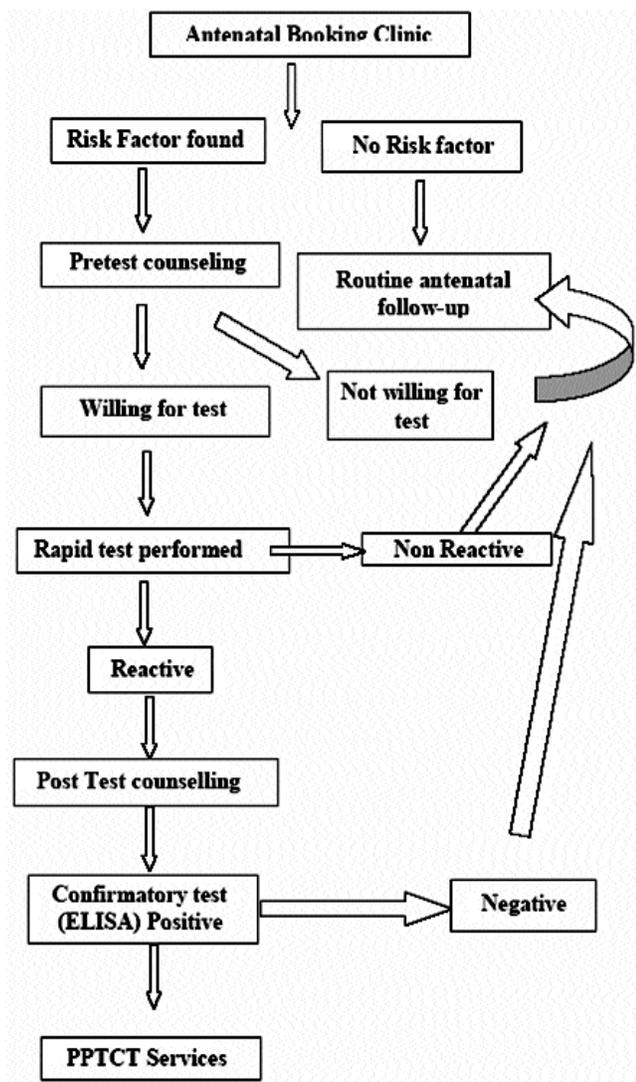


Figure-5: Algorithm of services provided at PPTCT centre.

voluntary counselling and testing is thus critical for prevention of mother to child transmission of HIV.

The above facts prompted us to undertake a study to find out the prevalence of HIV in pregnant women since early detection of HIV in pregnancy and timely PPTCT interventions can reduce the risk of HIV transmission to infant from around 30% to less than 2%. We took ANC attendees coming to Mother and Child Health centre Pakistan Institute of Medical Sciences (MCHC, PIMS) as our target population. The algorithm used is as following:

The results showed that, though women were aware of the word 'AIDS' but general information about HIV is very poor. A few who know about HIV relate it with sex only and there is marginal knowledge about other routes of

transmission. Pre-test counselling is a good time to improve their awareness. In addition, even though HIV/AIDS is related with stigma and initially many of them were not willing for test however thorough pre-test counselling helps them to understand benefits of testing and only 1% actually refused testing. Topics covered in pre-test sessions included routes of transmission, benefits and method of HIV testing and various protection strategies. The low rate of HIV testing among husbands remained a major challenge for us since very few men accompany their wives to hospital and only 47 men were tested during the study period of which 1 was found positive. To overcome this shortcoming we provided information/education material on general antenatal care, STIs/HIV in the form of 'family booklets' to women to share with their husbands at home.

The risk factors identified are mentioned in Table-2. Post-test counselling is an excellent opportunity to make our population understand the risk and how to protect themselves and their families in future. Of two women found positive at PPTCT centre of PIMS via screening test, 1 had history of blood transfusion during a surgery 1 year back and the other woman was married to a man deported from abroad. In addition, HIV centre established separately at Medical OPD, PIMS referred 6 positive pregnant women to PPTCT centre, PIMS for treatment and care. Out of these 6 positive pregnant women, husbands of 5 were also HIV positive who had history of working abroad and sexual contacts with sex workers while the Pakistani husband of sixth positive women, who herself was from South Africa, was HIV negative.

Conclusion

Antenatal screening for HIV is a fruitful tool to diagnose positive women. A simple questionnaire can help us to find women who need HIV testing. However still, major number of positive pregnant women coming to PPTCT centre of PIMS, are wives of positive men. Thus the need of the day is to offer HIV testing to spouses of positive men as only few are willing to bring their wives to health care facilities due to fear of stigma and discrimination.

The study findings are limited in terms of overall generalization since it has been done in only one hospital. To our knowledge, this is the pioneer study to evaluate HIV testing in antenatal population. What we need is a national survey in antenatal population before widespread implementation of routine HIV testing.

Antenatal clinics should be made more malefriendly to promote couple counselling not only for HIV but also to enhance the role of men in general care of pregnant women.

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