

ORIGINAL RESEARCH

Study of Outcome of HIV Infection Among Pregnant Females in a Tertiary Care Hospital of Kumaon Region

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ABSTRACT

Background: Low birth weight, premature birth linkage with maternal HIV infection has been reported by some studies. The study was done to estimate seroprevalence, the socio-demographic profile and its outcome in HIV among pregnant females.

Materials and Methods: A total of 24 HIV positive pregnant females were registered in which 18 delivered (total- 5400) at Obstetrics and Gynaecology Department, Dr. Sushila Tiwari hospital, Haldwani during study period Dec 2019- Nov 2021. Seroprevalence, demographic profile, pregnancy outcome and fetal complications of HIV infection were described using frequency, percentages, mean, standard deviation using Microsoft Excel software.

Results: The seroprevalence of HIV among pregnant females was 0.33%. Low birth weight was seen in 25% newborns, 20.8% newborns were preterm. In present study, 1 (4.2%) new born each had NICU admission, congenital anomaly, IUD and 1 was still born.

Conclusion: Adverse foetal outcome in forms of low birth weight, preterm birth, NICU admission, congenital anomaly, IUD and still born was seen in HIV positive pregnant females.

Keywords: HIV infection, pregnant females, low birth weight, preterm.

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INTRODUCTION

HIV infection in women occur primarily during their reproductive years, hence, pregnancy provides an unique opportunity for implementing prevention strategies against HIV infection. Mother-to-child transmission (MTCT) of HIV is an important contributor to HIV transmission.^[1] Screening in antenatal women is important, because HIV can be transmitted from an infected mother to her child during pregnancy, labour/ delivery and through breast feeding.^[2] Prevention of parent-to-child transmission (PPTCT) basically aims at reducing the chance of transmission of human immunodeficiency virus (HIV) through vertical route. With proper antiretroviral treatment (ART), the chance of transmission reduces significantly. Pregnancy does not seem to have an adverse effect on the natural history of HIV infection in women in most studies, although Acquired Immunodeficiency Syndrome (AIDS) has become a leading cause of maternal mortality in some areas, as the epidemic progresses.^[3]

Adverse pregnancy outcomes that have been reported in HIV-positive women include increased rates of spontaneous early abortion, low birth weight babies, and stillbirths, preterm labour, preterm rupture of membranes, other sexually transmitted diseases, bacterial pneumonia, urinary tract infections, and other infectious complications. When taking reproductive decisions, the women living with HIV and AIDS take into consideration the fact, they live with HIV and the possible risk of transmission of the virus to the foetus. Furthermore, they are subjected to individual factors, social aspects, and cultural expectations. The literature on post-diagnosis abortion is quite limited,^[4] but indicates that the risk of transmission of the virus to the foetus was one of the factors that weighed on reproductive decisions. The study was done to estimate seroprevalence, the socio-demographic profile and its outcome in HIV among pregnant females.

MATERIALS & METHODS

A descriptive cross-sectional study was conducted among 24 HIV positive pregnant females were registered in which 18 delivered (total- 5400) at Obstetrics and Gynaecology department, Dr. Sushila Tiwari hospital, Haldwani during study period Dec 2019- Nov 2021.

Inclusion criteria

- All seropositive pregnant women attending obstetrics and gynaecology OPD and admitted in Obstetrics and Gynaecology ward
- All pregnant women willing to be part of study.

Exclusion criteria

- Patient not willing to be part of study
- Pregnant women with other comorbidities like HCV, HBsAg.

All pregnant females as per inclusion and exclusion criteria attending Obstetrics and Gynaecology OPD in study period were screened for HIV infection. Those women tested positive were sent to ICTC centre for further testing and counseling and to ART centre where patient was registered and was given treatment free of cost. HIV positive pregnant women were followed till delivery of the baby for observing the pregnancy outcome and fetal complications of HIV infection in pregnancy i.e., abortion, stillbirth, alive, dead and NICU admission.

The study approval was obtained from Institution Ethics Committee, Govt. Medical College, Haldwani. Informed written consent was taken from each participant. The privacy and confidentiality of study participants were ensured. The data were entered and analyzed using Microsoft Excel. For descriptive analysis, mean, standard deviation (SD), frequency and percentages were calculated.

RESULTS

The seroprevalence of HIV among pregnant females was 0.33%.

Table 1: Socio- demographic profile of study participants (n=24)

Socio- demographic profile	n (%)
Age in years (Mean±SD)	25.21±3.77
Religion	
Hindu	16 (66.7)
Muslim	8 (33.3)
Area of residence	
Rural	5 (20.8)

Urban	19 (79.2)
Socioeconomic status	
Upper class	00
Upper middle	00
Lower middle	00
Upper lower	19 (79.2)
Lower	05 (20.8)

The mean age of the study population was 25.21 ± 3.77 years. There were 66.7% Hindus and 33.3% Muslims among the study population. 79.2% of study participants belonged to urban area whereas 20.8% of them belonged to rural area. 79.2% of study participants belonged to upper lower social class whereas 20.8% of them belonged to lower social class. [Table 1]

Table 2: Obstetric profile of study participants (n=24)

Obstetric profile	n (%)
Gravida	
Primi	9 (37.5)
G2	5 (20.8)
G3	6 (25)
G4	4 (16.7)
Gestational age (in weeks)	
< 37	5 (20.8)
37- 40	16 (66.6)
> 40	3 (12.5)
Mode of delivery	
LSCS	6 (25)
Vaginal delivery	18 (75)

There were 37.5% women with primigravida and 62.5% with multigravida. Gestational age at delivery was < 37 weeks among 20.8%, 37-40 weeks among 66.6% and > 40 weeks among 12.5% women. The mode of delivery was LSCS among 25.0% and NVD among 75%. [Table 2]

Table 3: Foetal outcome & characteristic in study population (n=24)

Foetal outcome & characteristic	n (%)
Outcome	
Alive and healthy	20 (83.3)
Alive (NICU Admission)	1 (4.2)
Alive (Congenital Anomalous)	1 (4.2)
Intra-uterine death	1 (4.2)
Expulsion	1 (4.2)
Birth weight	
Normal	18 (75)
Low birth weight	6 (25)

There were 83.3% alive babies, 4.2% alive male (NICU Admission), 4.2% Alive male (Congenital Anomalous), 4.2% Intra-uterine death and 4.2% expulsion. Low birth weight was reported among 25.0% subjects whereas 75% infants have normal birth weight. [Table 3]

DISCUSSION

The seroprevalence of HIV among pregnant women in our study was 0.33% which is more than national average.^[5] The study done by Nayak et al, Mandel et al, Giri et al, Devi and Shyamala, Patil et al, reported prevalence rate of HIV was found to be 0.5%, 0.56%, 0.41%, 0.45% and 0.44% respectively.^[6-10]

In current study, there were 37.5% women with primigravida and 62.5% with multigravida. Nayak et al,^[6] reported that majority (62.5%) were second gravida contrary to the study done by Patil et al where majority (53.83%) were primigravida and 46.2% were multigravida.^[10] Ashtagi et al in their study observed that among the HIV-positive pregnant women attending ANC clinic 63.83% were multigravida and 36.17% were primigravida.^[11]

In current study, gestational age at delivery was pre-term (<37 weeks) among 20.8%, 37-40 weeks among 66.6% and > 40 weeks among 12.5% women. Desai et al,^[12] noted incidence of preterm delivery around 34.5% among HIV positive women. Temmerman et al reported that prematurity was observed in 21.1% of neonates born to HIV positive women compared to 9.4% of those born to HIV negative women,^[13] Sunanada and Jagruti,^[14] reported that 18.75% of the women had a preterm delivery while 81.25% delivered at term pregnancy. Dadhwal et al,^[15] reported that 90.6% delivered after 37 completed weeks of gestation which was contrasting to the present study.

In present study, lower segment caesarean section among 25.0% and normal vaginal deliveries among 70.8% was noticed. While 1 (4.2%) had expulsion. Sunanada and Jagruti,^[14] found that 16.25% required caesarean section.

The present study had 83.3% alive children, 1 (4.2%) newborn each had NICU Admission, Congenital Anomalous, IUD and still born. In the study by Desai et al,^[12] there were 5 still births and 5 IUD out of 109 births. Another large study in Nairobi where it was found that there was increased association between HIV and IUD and still birth rate, after controlling for the presence of other STDs.^[13]

In our study, low birth weight was reported among 6 (25.0%) subjects. Sunanada and Jagruti,^[14] found that 50% neonates were weighing > 2.5 kgs. Dadhwal et al,^[15] found that only significant finding was that the mean birth weight was lower in new-borns of HIV-infected women. Brocklehurst and French,^[16] showed association, between HIV infection and abortions, stillbirths, perinatal and neonatal mortality, LBW, IUGR, and PTB. Areechokchai et al,^[17] found that low birthweight was 20% among HIV infected mothers.

CONCLUSION

Maternal HIV infection adversely affects the pregnancy outcome and is associated with higher incidences of obstetric complications. HIV infection is also associated with preterm birth, low birth weight and postpartum complications. A multidisciplinary team approach in management involving an HIV physician, experienced obstetrician, and neonatologist are essential to optimize maternal and foetal outcome.

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