

Original Research Article

Knowledge, attitude and practice regarding mother-to-child transmission of HIV, its prevention, and associated factors among antenatal women attending a health care facility in district Srinagar, North India: a cross sectional study

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ABSTRACT

Background: HIV pandemic still remains an issue of major concern on a global scale with more than 37.9 million people estimated to be living with HIV in 2019 globally -an increase from 36.7 million in 2015. India has the third largest HIV epidemic in the world, with 2.1 million people living with HIV, with higher prevalence among men (0.25%) than women (0.19%) out of which children (15 years) accounts for 6.54%, while two fifth (40.5%) of total HIV infections are among females.

Methods: A cross-sectional hospital based study was conducted over a time period of 03 months and a total of 366 pregnant women attending the health care facilities of Block Hazratbal were included in the study.

Results: Among the study participants, only 15 (4.1%) women had not heard about HIV/AIDS, 314 (85.8%) were aware of sexual transmission as a mode of transmission and only half of the study subjects (50.8%) knew about MTCT, more than half of the subjects (68.3%) were aware that the transmission of HIV infection can occur during pregnancy.

Conclusions: Although the study population showed adequate knowledge about HIV infection, there was a considerable lack of knowledge regarding mother-to-child transmission of HIV infection and its prevention.

Keywords: Antenatal women, HIV/AIDS, Knowledge, Mother to child transmission, Practice and attitude

INTRODUCTION

As the HIV epidemic has reached its fourth decade since the 1st case of HIV was reported in the South East Asia Region (SEAR) in 1984 in Thailand, HIV continues to spread unabated in SEAR countries, causing concern over many public health issues. Five countries (namely India, Indonesia, Myanmar, Nepal and Thailand) account for the majority (99%) of HIV infection cases in the region. India with its large population ranks second among the highest HIV burden countries in the world.¹ The HIV pandemic

still remains an issue of major concern on a global scale with more than 37.9 million people estimated to be living with HIV in 2019 globally an increase from 36.7 million in 2015. The annual number of deaths from AIDS-related illness among people living with HIV (all ages) globally has fallen from a peak of 1.7 million (1.3 million-2.4 million) in 2004 to 770 000 (570,000-1,100,000) in 2018.² India has the third largest HIV epidemic in the world, with 2.1 million people living with HIV, with higher prevalence among men (0.25%) than women (0.19%) out of which children (15 years) accounts for 6.54%, while two fifth (40.5%) of total HIV infections

are among females. In 2017, 88,000 new HIV infection cases were reported and 69,000 AIDS related deaths occurred. Overall, India's HIV epidemic is slowing down. Between 2010 and 2017 new infections declined by 27% and AIDS-related deaths more than halved, falling by 56%.³

An overview of HIV epidemic in India shows that the overall HIV prevalence among pregnant women, a proxy for prevalence among the general population, continues to be low at 0.19% in the country, with an overall declining trend at the national level. The highest prevalence was recorded in Nagaland (0.88%), followed by Mizoram (0.68%), Manipur (0.64%), Andhra Pradesh (0.59%) and Karnataka (0.53%). Also, states like Chhattisgarh (0.51%), Gujarat (0.50%), Maharashtra (0.40%), Delhi (0.40%) and Punjab (0.37%) recorded HIV prevalence of more than the national average.⁴ There is a decline of 10% in Chhattisgarh, Delhi and Jammu and Kashmir. Jammu and Kashmir had the lowest adult HIV prevalence in the country at 0.03% in 2017.³

Globally each year about 2.3 million HIV positive women get pregnant and 700,000 children are born infected, acquiring infection from their parents.⁵ Children less than 15 years of age account for 3.4 million of HIV infected cases worldwide.⁶ The rate of mother-to-child transmission decreased from 18% (15-25%) in 2010 to 9% (8-13%) in 2018. Coverage of early infant diagnosis was 68% (56-91%) in 2018. In South East Asia Region (SEAR), women and children continue to be more vulnerable to HIV infection. An estimated 1.3 million (1.2-1.6 million) women aged 15 years and above are currently living with HIV in SEAR. The estimated proportion of women with HIV in the region (37%) is lower than the global average (50%).⁷ In India, children less than 15 years of age accounted for 7% (1.45 lakh) of all infections in 2011. Of all HIV infections, 39% (8.16 lakh) were among women.⁴ In children and infants, the most significant source of HIV infection is mother-to-child transmission (MTCT) during pregnancy (5% to 10%), childbirth (10 to 15%), or through breastfeeding (5 to 20%).⁸⁻¹⁰

Addressing HIV/AIDS in children especially infants below 18 months is a significant global challenge. Where diagnostics, care and treatment are not available, studies suggest that 35% of children infected with HIV die in the first year of life, 50% by the age of two and 60% by the age of three. A critical priority in caring for HIV-infected infants is accurate and early diagnosis of HIV.⁴ Barely 20% of pregnant women have access to HIV testing and counseling. Of the estimated HIV-infected pregnant women, only 32% received antiretroviral prophylaxis to prevent mother-to-child transmission of HIV.¹

Regardless of the widespread information, education, and communication campaigns, and the extension of PMTCT services, women's knowledge on risk factors of MTCT of HIV and periods of transmission is greatly limited. This

has significantly contributed to the ineffectiveness of the PMTCT strategy.^{11,12}

Prevention of MTCT of an HIV infection is a politically and scientifically accepted approach to reduce the impact of HIV, especially on children.¹³ To prevent the transmission of HIVs from mother to baby, World Health Organization (WHO) promotes a comprehensive strategic approaches which include primary prevention of HIV infection among women of childbearing age; preventing unintended pregnancies among women living with HIV; preventing HIV transmission from a woman living with HIV to her infant and providing appropriate treatment, care and support to mothers living with HIV, their children and families.^{14,15} To implement the PMTCT programme effectively and combat MTCT it is necessary for healthcare professionals to have adequate knowledge of and comply with the implementation of the guidelines. Reports from rural India indicate that there is willingness by healthcare providers to care for patients with HIV, but this is hampered by concerns regarding ability to provide such care due to resource constraints.^{16s}

This study was conducted with an aim to help healthcare institutions to recognize mother's knowledge, attitude and utilization of PMTCT services and hence benefit them by providing accurate information on risk of MTCT, availability of prevention options, effect of HIV on pregnancy outcomes and involvement and screening of partner to improve quality care and utility of the services.

METHODS

A cross-sectional hospital based study was conducted from January 2019 to March, 2019 to assess knowledge, attitude and practice regarding mother-to-child transmission of HIV/AIDS, its prevention, and associated factors among antenatal women attending peripheral health care facilities in Block Hazratbal, District Srinagar. The study was conducted over a time period of 03 months and a total of 366 pregnant women, regardless of their gravid status and duration of pregnancy, attending the health care facilities of Block Hazratbal, who were approached and consented to be part of the study, were included in the study. Relevant information about their demography, socio-economic status and knowledge, attitude and practice regarding mother-to-child transmission of HIV/AIDS, general knowledge of HIV, specific knowledge regarding MTCT, and attitude toward screening of HIV and voluntary counseling was obtained using structured study instrument. The collected data was entered in Microsoft Excel spreadsheet. Frequencies were obtained using descriptive statistics using appropriate statistical tool for analysis.

RESULTS

In this study, majority of the participants (54.4%) belonged to the age group 26-30 years. Majority of them were illiterate (62.3%) and homemakers (73.8 %). 42.1%

of the study subjects were primi gravida. Majority of the women (85.3%) had received antenatal checkup during last pregnancy and 41.2% subjects had at least three antenatal visits during their current pregnancy. Majority of the pregnant women (84.2%) accessed government health facilities, while rest of the study subjects (15.8%) availed both private and government health facilities (Table 1).

Table 1: Socio-demographic characteristics of study participants (n=366).

Characteristics	N	%
Age (in years)		
20-25	108	29.5
26-30	199	54.4
31-35	59	16.1
Gravida		
Primi	154	42.1
Second	118	32.2
>3	94	25.7
Educational status		
Illiterate	228	62.3
Primary	32	8.7
Middle	46	12.5
High school and above	60	16.5
Working		
Yes	96	26.2
No	270	73.8
Current antenatal visit		
1	31	8.5
2	58	15.9
3	151	41.2
4	126	34.4
ANC during last pregnancy		
Yes	312	85.3
No	54	14.7
Access to healthcare		
Government facilities	308	84.2
Private and government facilities	58	15.8

Among the study participants, only 15 (4.1%) women had not heard about HIV/AIDS, 314 (85.8%) were aware of sexual transmission as a mode of transmission and only half of the study subjects (50.8%) knew about MTCT. About 35% of the women did not know that sharing sharp objects and blood transfusion with infected person can cause transmission of the infection. Regarding knowledge of MTCT of HIV, more than half of the subjects (68.3%) were aware that the transmission of HIV infection can occur during pregnancy while as only 29.0% and 20.4% felt that the child would get infected through vaginal delivery and caesarean section respectively.

However, assessing the knowledge about PMTCT OF HIV showed that 37.6% and 32.8% of the pregnant women were aware regarding the use of antiretroviral

therapy during pregnancy and in newborns respectively. However, half of the respondents (51.6%) did not know about the role of avoiding breastfeeding in prevention of MTCT. Majority of the subjects (80.9% and 93.7%) were aware regarding use of laboratory test for detecting HIV and facilities where VCT can be done respectively (Table 2).

Table 2: Knowledge of study participants regarding HIV/AIDS and MTCT (N=366).

Knowledge of study participants		Yes (%)	No (%)	Don't Know (%)
Have you ever heard of HIV/AIDS		351 (95.9)	15 (4.1)	-
Knowledge of transmission of HIV				
Sexual intercourse with infected partner		314 (85.8)	0 (0)	52 (14.2)
Sharing sharp object with infected person		210 (57.4)	18 (4.9)	138 (37.7)
Transfusion with infected blood		243 (66.4)	8 (2.2)	115 (31.4)
Mother-to-child transmission		186 (50.8)	12 (3.3)	168 (45.9)
Insect bite		283 (77.3)	14 (3.8)	69 (18.9)
Knowledge of routes of mother to child transmission of HIV/AIDS (n=186)				
During pregnancy		127 (68.3)	10 (5.4)	49 (26.3)
During childbirth	Vaginal delivery	54 (29.0)	14 (7.5)	118 (63.5)
	Caesarean section	38 (20.4)	13 (7.0)	135 (72.6)
Through Breastfeeding		98 (52.7)	3 (1.6)	85 (45.7)
Knowledge of prevention of mother to child transmission of HIV/AIDS (n=186)				
ARV therapy during pregnancy		70 (37.6)	13 (7.0)	103 (55.4)
ARV therapy to newborn		61 (32.8)	8 (4.3)	117 (62.9)
Avoid breastfeeding		67 (36.0)	23 (12.4)	96 (51.6)
Knowledge of voluntary counseling and testing of HIV (n=366)				
Awareness of laboratory test to detect HIV infection		296 (80.9)	9 (2.5)	61 (16.6)
Facility where VCT can be done		343 (93.7)	11 (3.0)	12 (3.3)

Among the participants who had heard about HIV (95.9%) (Table 2), source of information (Figure 1) was mainly through television (56% of subjects), radio (15%), and newspaper (6%). Only in 10% of the women health worker was the source of information about HIV.

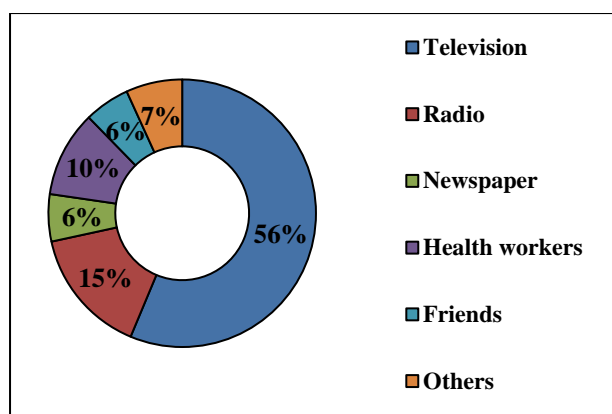


Figure 1: Source of information about HIV infection among study population.

Practice of prevention of mother-to-child transmission of HIV infection showed that majority of the study subjects (91.5%) and their spouses (74.9%) were tested for HIV infection. Among the study participants, majority (98.4%) had shared the result of HIV test with their spouse. 93.4 % subjects encouraged the use of condom with spouse (Table 3).

Table 3: Practice among study participants towards prevention of mother to child transmission of HIV/AIDS (n=366).

Practice among study participants	Yes (%)	No (%)	Don't Know (%)
Ever been tested for HIV infection	335 (91.5)	31 (8.5)	-
Shared result with your spouse	360 (98.4)	6 (1.6)	-
Spouse been tested for HIV during their ANC follow up	274 (74.9)	92 (25.1)	-
Use of condom with spouse	342 (93.4)	4 (1.1)	20 (5.5)

Among the respondents, majority (96.4% and 77.3%) had favorable attitude towards HIV testing among pregnant women and their spouses respectively, whereas, only 44% were afraid of stigma and discrimination associated with HIV testing. Majority of them (89.3%) were of view that screening for HIV infection should be done before marriage, while as 90.2% agreed with that increasing the utilization of PMTCT services will decrease the transmission of HIV infection to the newborn. Most of the study participants (94.3%) had a favorable attitude towards delivery of HIV positive women by a skilled person. Only 38.5% of the study subjects agreed that HIV positive mother should get ARV therapy during pregnancy and a very few subjects (12.3%) agreed to avoid breastfeeding the child to reduce risk of transmission of HIV infection to the child (Table 4).

Table 4: Attitude towards mother to child transmission and its prevention among study participants (n=366).

Attitude of participants	Agree (%)	Disagree (%)	Neutral (%)
Pregnant women should know their HIV status	353 (96.4)	13 (3.6)	0 (0)
Afraid of stigma and discrimination during HIV testing	162 (44.3)	128 (35)	76 (20.7)
Encourage spouse for testing	283 (77.3)	59 (16.1)	24 (6.6)
Screening for HIV infection before marriage	327 (89.3)	15 (4.1)	24 (6.6)
Delivery of HIV positive women by a skilled person	345 (94.3)	21 (5.7)	0 (0)
Utilization of PMTCT services will decrease transmission of HIV infection to the baby	330 (90.2)	21 (5.7)	15 (4.1)
Taking ARV therapy during pregnancy	141 (38.5)	25 (6.8)	200 (54.7)
Breastfeeding by HIV positive mother	45 (12.3)	133 (36.3)	188 (51.4)
Isolation of PLHIV	185 (50.5)	141 (38.5)	40 (11.0)

DISCUSSION

This study assessed the knowledge, attitude and practice regarding mother-to-child transmission of HIV infection, its prevention, and associated factors among antenatal women attending a health care facility in district Srinagar/North India: a cross sectional study. Our study showed that the majority (95.9%) of the pregnant women had heard about HIV/AIDS. These findings are consistent with results of studies carried out among antenatal attendees visiting tertiary care setting in South India.¹⁷ Studies conducted among pregnant women in Ethiopia show that nearly all of them had heard about HIV/AIDS.^{5,18} The study showed that television was the main source of information about HIV in half of the subjects, a finding consistent with other studies.¹⁹⁻²¹ About knowledge regarding transmission of HIV infection, only half the subjects (50.8%) were aware about the mother to child transmission of the infection. Similar findings were also observed by Abtey et al in a study conducted in Northwest Ethiopia, where 57.5% of pregnant women knew about MTCT of the infection.²² Knowledge about mother-to-child transmission of HIV infection revealed that more than half of the study respondents (68.3% and 52.7%) were aware of the transmission of the infection to the child during pregnancy and breastfeeding respectively. These findings are similar to the results reported by a study conducted by

Hailu et al among antenatal care subjects in Mizan Aman Town Public Health Facilities, Southwest Ethiopia.²³ However, our study showed a very poor knowledge of MTCT of the infection during vaginal delivery (29.0%) and caesarean section (20.0%) among study subjects. Similar pattern was observed by other studies conducted within and outside India.^{18,24}

Regarding practice of prevention of MTCT of HIV infection, almost all of the study participants (91.5%) had been tested for HIV infection. These findings are similar to the results observed by a study conducted by Tesfaye et al among pregnant women attending Ambo Hospital ANC Clinic in West Ethiopia where all the study subjects had been tested for HIV.¹⁸ Pregnant women whose spouses were tested for HIV during antenatal checkup were 74.9%, slightly higher than the results reported by a study conducted by Abajobir et al among pregnant mother attending ANC clinic in Hawassa referral hospital, South Ethiopia.²⁵ Study conducted by Workie et al among pregnant Mothers in Southern Ethiopia also reported similar results (76.3%).⁵

Our study showed a favorable attitude among pregnant women towards HIV testing, a finding constant with the results of a study conducted by Indira et al among antenatal women attending a tertiary care hospital in India which showed that 86% of study subjects agreed to be HIV tested.²⁴ While as 77.3% of study subjects agreed with HIV testing of their spouses. These findings are consistent with the results shown by another study conducted by Lucksom et al among antenatal women attending Central Referral Hospital of North East India in Sikkim where 91.4% of participants agreed to HIV testing of their spouses.²⁶ Our study also that majority of the participants (94.3%) agreed with the delivery of a HIV positive pregnant woman by a skilled person. Study conducted by Tesfaye et al also showed similar results (91.9%) in a study conducted in Ethiopia.¹⁸ In our study, 90.2% pregnant women agreed that the utilization of PMTCT services will decrease transmission of HIV infection to the baby which is similar to the findings reported by Tigabu et al.⁵ The study showed that 89.3% of study participants agreed with decrease HIV infection transmission to the baby with increased utilization of PMTCT services.

CONCLUSION

Although the study population showed adequate knowledge about HIV infection, there was a considerable lack of knowledge regarding mother-to-child transmission of HIV infection and its prevention. However, the population showed high levels of favorable attitude and preventive practices regarding MTCT of HIV infection. But the spousal HIV testing was low.

There is a dire need to increase awareness of HIV and MTCT among target population. Absence of an effective vaccine and cure puts more emphasis on health education,

awareness campaigns and promotion of voluntary counseling and testing for prevention of MTCT of HIV infection. These measures call for robust training of the health care providers so that they can educate antenatal women during their antenatal period in order to increase overall knowledge, attitude and practice regarding MTCT and its prevention.

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