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**Original Research Article** 

# KNOWLEDGE REGARDING HIV/AIDS AND MOTHER TO CHILD TRANSMISSION ISSUES AMONG WOMEN SEEKING ANTENATAL CARE IN VIMSAR, BURLA

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# Abstract:

Globally, around 34 million people are living with HIV in 2010, and 35% of the pregnant women are tested for HIV in the low and middle income countries. HIV infection in pregnancy has become a complication of pregnancy in some developing countries. This has major implications for the management of pregnancy and birth. A cross sectional study was conducted from December 2018 – February 2019 in tertiary care hospital, VIMSAR Burla . The present study was conducted to assess the knowledge about HIV/AIDS and mother to child transmission issues among women seeking antenatal care and visiting ICTC. A sample of 150 pregnant females was used to accomplish the study. A pre- tested semi-structured questionnaire was used to gather information on the study variables. The questionnaire included variables related socio-demographics e.g., age, education status, occupation, residence, awareness about HIV/AIDS. The study reflected that 83.4% of the women had heard of the term HIV/AIDS which reflects a relatively high level of awareness about the term but subsequently dropping levels of awareness about the routes of transmission, laboratory diagnosis and the availability of drugs. Only 45.3% of the respondents were aware of ICTC. 42.7% were aware about mother to child transmission of HIV and only 32% were aware of anti-retro viral therapy for newborn.

Keywords: HIV, ICTC, Antenatal

# Introduction

AIDS is recognized as an emerging disease AND only in the early 1980s, it has rapidly established itself throughout the world. HIV/AIDS has evolved from a mysterious illness to a global pandemic which has infected tens of millions of people. HIV is transmitted mainly in three ways: through unprotected sexual intercourse, heterosexual or homosexual; through blood or blood products, donated semen or organs; or from an infected mother to her child (vertical or Mother-To-Child Transmission). As of 2015, a total of 36.7 million are living with HIV out of which 17.8 million and 1.8 million are women and children respectively <sup>[1].</sup> About 5700 new infections are diagnosed daily, 47% of which are women and about 400 cases are children below 15 years of age<sup>[2]</sup>. In India, an estimated 2.1 million people are living with HIV with estimated 86300 new HIV infections.<sup>[3]</sup> Out of these around 40% are women. Data from antenatal clinics indicate rising HIV prevalence among women which in turn contribute to increasing HIV infection in children. India has a national antenatal prevalence of 0.48%. Each year, nearly 56700 HIV positive babies are born.<sup>[4]</sup> Transmission of HIV from mother to child can be prevented almost entirely by anti-retroviral drug prophylaxis, elective caesarean section before onset of labour and rupture of membranes and by refraining from breast feeding.<sup>[5]</sup>

The lack of adequate knowledge regarding HIV and preventive practices against mother to child transmission could be a reason for the fact that mother to child transmission is responsible for about 90% of the childhood HIV infections.<sup>[6]</sup> Mother-To-Child Transmission (MTCT) of HIV leads to the birth of

approximately 56,700 HIV-positive Indian children each year<sup>[7].</sup>The Indian government recognizes the seriousness of this problem, and information about MTCT is a part of the government's overall strategy to combat HIV, known as the National AIDS Control Program Phase III (NACP-III). In Odisha according to National Family Health Survey (NFHS)- 4, women aged between 15-49 years only 20.3% have comprehensive knowledge of HIV/AIDS.<sup>[8]</sup>

Most of the risk behaviours are attributable for HIV infections among adults; however, a child gets infection from his/her mother most of the time. UNAIDS states that mother to child transmission is the largest source of HIV infection in children below 15 years of age. In fact, in countries where blood for transfusion and blood products are regularly screened, and where clean syringes and needles are widely available in health centres and hospitals, MTCT is virtually the only source of infection in young children.<sup>[9]</sup> Women are not only at a higher risk of acquiring the infection; they have got a unique role in transmission of HIV infection to children.<sup>[10]</sup> It has been observed that most of the women in the community do not have complete and correct information about HIV and it's prevention.<sup>[11]</sup>

The Prevention of Parent To Child Transmission (PPTCT) of HIV AIDS program started in India in the year 2002. The aim of the PPTCT program is to offer HIV testing to every pregnant woman in the country so as to cover all estimated HIV positive pregnant women and eliminate transmission of HIV from mother to child. The PPTCT services provide access to all pregnant women for HIV diagnostic, prevention, care and treatment services. As such, the key goal is to ensure the integrated PPTCT service delivery with the existing reproductive and child health program. The Indian government recognizes the seriousness of this problem, and information about MTCT is part of the government's overall strategy to combat HIV, known as the National AIDS Control Program Phase IV (NACP IV). [12]

VSS Institute of Medical Sciences and Research (VIMSAR), Burla is a government tertiary level 1071 bed academic hospital situated on the banks of river Mahanadi in Sambalpur, Odisha. VIMSAR caters to the needs of nearly 10 districts of Western Odisha and also to the bordering state of Chhattisgarh. The ICTC centre at Burla was started in the year 2005 with around 35 cases being tested daily. Over the last year, the total caseload was 1680 apart from Ante-

natal cases, out of which 120 cases were positive. The present study was conducted to assess the knowledge about HIV/AIDS and mother to child transmission issues among women seeking antenatal care at VIMSAR, Burla and to find its association between socio-demographic variates.

#### Materials and methods:

Study type:

Cross sectional study

Study area:

The study was conducted at the Integrated Counseling and Testing Centre (ICTC) of VIMSAR, Burla where all pregnant women are referred for counseling and testing for HIV.

Study duration:

The study was conducted over a period of 3 months starting from December 2018 to February 2019.

Study subjects:

The pregnant women attending ICTC, VIMSAR, Burla

Sample size:

Consecutive sampling method was adopted to meet the sample size of 150 in a duration of six weeks of data collection excluding Sundays and official holidays. 30 working days data was collected by taking verbal consent from the pregnant women. Women who were returning for a follow-up visit for the same pregnancy were not re-interviewed.

Methods of data collection:

The women were interviewed by using a predesigned pretested semi structured questionnaire and between 09:30-11:30 am on each working day excluding Sunday and official holidays at ICTC, VIMSAR. First five pregnant women were interviewed before counseling for HIV/AIDS done by counselor during each day at the ICTC. Study participants were interviewed individually by taking informed consent (verbal) before initiation of the interview. All interviews were conducted in the participant's native language, usually Odiya. Questionnaire topics included socio-demographic profile, obstetric history, knowledge about HIV/AIDS, acceptability of HIV testing, and an assessment of HIV risk factors, including number of sexual partners and blood transfusions. Questions about HIV/AIDS awareness focused on sources of information, correct and incorrect methods of transmission, methods of

preventing transmission, and treatments or cures for HIV/AIDS.

Data analysis: Template was generated on MS-Excel sheet. Descriptive analysis and frequency distribution was done using statistical methods.

# **Results:**

Variables	Frequency	Percentage
Age(yrs)		
15-19	06	4%
20-24	54	36%
25-29	63	42%
30-34	23	15.4%
35-39	04	2.6%
Ehtnicity		
Tribal	38	25.3%
Non tribal	112	74.7%
Education		
Illiterate	19	12.7%
Primary school	56	37.3%
Sec. School	56	37.3%
Higher secondary	-	-
Graduation	17	11.3%
Post-graduation	02	1.4%
Occupation		
Housewife	121	80.6%
Govt. servant	14	9.3%
Tailor	8	5.3%
Farmer	4	2.6%
Labourer	3	2%
Type of family		
Nuclear	71	47.3%
Joint	79	52.7%

#### TABLE 1: SOCIO-DEMOGRAPHIC PROFILE OF STUDY SUBJECTS (N=150)

Table no 1 depicts that out of 150 study subjects maximum belonged to age group of 25-29 years 63 (42%) followed by age group 20-24 years 54 (36%) and 6 (4%) of them were between 15-19 years of age. Among them 148 (98.7%) were Hindu and 2 (1.3%) were Muslim. Ethnicity wise 38 (25.3%) were tribal in origin and rest 112 (74.7%) non tribal. Majority of them 56 (37.3%) were educated up to primary and secondary school each; 2 (1.4%) were post graduate and 19 (12.7%) were illiterate. Most of the subjects were housewives that is 121 (80.6%); 14 (9.3%) government servant. 71(47.3%) had nuclear family and rest had joint family.

#### TABLE 2: CURRENT PREGNANCY STATUS DURING ANTENATAL VISIT (N=150)

	Frequency	Percentage	
Order of pregnancy			
<2	77	51.3%	
2-4	66	44%	
>4	7	4.7%	
Gestational age			
1 <sup>st</sup> Trimester	48	32%	
2 <sup>nd</sup> Trimester	74	49.4%	
3 <sup>rd</sup> Trimester	28	18.6%	

In the present study, 77(51.3%) of the women were primigravida and 66(44%) came for their  $2^{nd}$  or  $3^{rd}$  pregnancy. 48(32%) of the women were in the  $1^{st}$  trimester and 74(49.4%) were in the  $2^{nd}$  trimester.

Awareness HIV/AIDS	about	term	Frequency	Percentage
Yes			125	83.3%
No			25	16.7%
Total				
Awareness centre	about	ICTC	Frequency	Percentage
Yes			68	45.3%
No			82	54.7%
Total			150	100

TABLE 3: AWARENESS OF THE TERM HIV/AIDS AND ICTC CENTRE (N=150)

In our study, 125 (83.3%) of the women had heard of the term HIV/AIDS. 68(45.3%) of the respondents were aware of an ICTC and 82(54.7%) women were unaware. Maximum of them 39.46% were aware from electronic media rest 15.7%, from health workers and 13.45% print media



## Figure 1: SOURCES OF INFORMATION ON HIV/AIDS



Awareness about modes of transmission	Frequency	Percentage
Sexual intercourse with infected person	74	40.2%
Using/sharing sharp objects with infected person	17	9.2%
Through transfusion with infected blood	33	17.9%
Through mother to child transmission	22	11.9%
Contaminated needles	25	13.6%
IV drug users	11	05.9%
Breast feeding	02	01.1%

\*Multiple response questions

Out of 150 pregnant women, 84 (56%) were aware of routes of transmission. In the present study, 74(40.2%) of the responses were that HIV spreads by sexual contact with the infected person; 33(17.9%) of the responses were through transfusion with infected blood; 25(13.6%) responded contaminated needles and 2 (1.1%) gave response of breast feeding as mode of spread.

Is HIV/AIDS preventable or not?	Frequency	Percentage
Yes	73	48.7%
No	06	4%
Don't Know	71	47.3%
Total	150	100
Preventive measures*	Frequency	Percentage
Avoid unsafe sex/Use condoms	59	28.64%
Avoid contaminated needles	25	12.15%
Careful while blood transfusion	21	10.20%
Regular check-ups	16	07.76%
Use of Medicines	14	06.79%
Don't know	71	34.46%

## TABLE 5: KNOWLEDGE ABOUT PREVENTION OF HIV/AIDS (N=150)

\*Multiple response questions

In the present study, 73(48.7%) of the respondents said that HIV is preventable, 71(47.3%) said that they don't know while 6(4%) of the women said it was not preventable. The most common measure of prevention was the avoidance of unsafe sex (28.64%).

Is HIV a disease of pregnancy?	Frequency	Percentage
Yes	32	21.3%
No	37	24.7%
Don't know	81	54%
Can HIV/AIDS transmit from mother	to child?	
Yes	64	42.7%
No	05	3.3%
Don't know	81	54%
Is there any availability of drugs to t	reat a newborn born to HIV	positive mother?
Yes	48	32%
No	04	2.7%
Don't Know	98	65.3%

TABLE 6: RESPONSE TO PREGNANCY RELATED QUESTIONS (N=150)

Table no 6 represents, 32(21.3%) of the women responded that HIV is a disease that affects only pregnant women, 81(54%) didn't know and 37(24.7%) said it was not a disease of pregnancy.

64(42.7%) of the respondents were aware of the vertical transmission of HIV from mother to child. 48(32%) were aware of the drugs given immediately to the newborn of an HIV positive mother. 98(65.3%) of the women were not aware of the availability of anti-retroviral drugs for the newborn.

TABLE 7: CURABILITY OF HIV (N=150)

Is HIV curable?	Frequency	Percentage		
Yes	46	30.7%		
No	13	8.6%		
Don't Know	91 60.7%			
Awareness of anti-re	troviral drugs			
	Frequency	Percentage		
Yes	55	36.7%		
No	16	10.6%		
Don't Know	79	52.7%		

In our study, 46(30.7%) of the respondents said that HIV was curable, and 91(60.7%) didn't know if HIV was curable. 55(36.7%) were aware of the availability of the anti-retroviral drugs. 16 (10.6%) were confident that there were no drugs available to treat HIV, while 79(52.7%) were unsure.

Awareness about availability of tests to detect HIV			
	Frequency	Percentage	
Yes	88	58.6%	
No	04	2.7%	
Don't Know	58	38.7%	
Willingness to get tested for HIV			
Yes	115	76.7%	
No	035	23.3%	
Preferred timing for HIV screening			
Before marriage	10	06.7%	
Antenatal period	19	12.7%	
During prolonged periods of	24	16%	
illness			
No specific time	59	39.3%	
Don't know	38	25.3%	

#### TABLE 8: AWARENESS ABOUT DETECTION OF HIV (N=150)

In the study, 88(58.6%) of the women were aware of the tests to detect HIV while 58(38.6%) said they were not aware of any tests.115 (76.7%) of the respondents said they were willing to undergo HIV testing. 59(39.33%) of the women said that there was no specific time to undergo HIV testing while 24(16%) women said that the preferred time to test for HIV was during sickness.

# TABLE 9: ASSOCIATION BETWEEN SOCIO-DEMOGRAPHIC VARIABLE AND AWARENESS ABOUT HIV/AIDS (N=150)

Variables		Heard about HIV/AIDS	Have not heard about HIV/AIDS	Total	Statistical significance (Chi-sqare, P value)
Ethnicity	Tribal	38 (100%)	0	38	$X^2 = 8.63$ P= 0.003
	Non tribal	87 (77.6%)	25 (22.3%)	112	
Education	Illiterate	19 (100%)	0	19	X <sup>2</sup> = 3.086
	Educated	106 (80.9%)	25 (19.1%)	131	P=0.079

The above table reflects that out of 150 study subjects, 112 subjects were non tribal. Educated among them were 131 subjects and 19 were illiterate. Both these parameters were plotted against awareness level of HIV and chi square test was applied to them. Ethnicity was found to be statistically associated with awareness level with P value being 0.079.

## Discussion:

In the study 83.33% of the women had heard of the term HIV/AIDS. This is much higher than the awareness found in the study by Kumar C et al. where the percentage of women who have heard about HIV was 58.7%.<sup>[10]</sup> But in a study conducted by Praveena P et al, nearly 97.7% of pregnant women had heard of HIV/AIDS.<sup>[13]</sup> The statistics of the present study reflects relatively high levels of awareness about the term HIV/AIDS but very low levels of awareness about transmission, diagnosis, treatment and prevention of the disease. 68(45.3%) of the

respondents were aware of an ICTC and 54(36%) women were not aware of an ICTC. 28(18.7%) reported that they had come for a blood test but were unaware about ICTC and what the test was being done for. The most common source of information was electronic media (88 respondents-39.4%). 35 (12.7%) of the responses were health workers, while religious homes were the least common source of information (1.3%).In the study by Praveena et al, the main source of information on HIV/AIDS among pregnant women was television (84%). This underlines that electronic media

(television, internet etc) was an effective platform in educating the public about AIDS.

In our study, 56% of the women said they were aware of the routes of transmission. In the present study, 74(40.2%) of the responses were that HIV spreads by sexual contact with the infected person. 33(17.9%) of the responses were through transfusion with infected blood. This finding was comparable to other studies where also sexual route of HIV transmission was known to majority of aware pregnant women. In the study conducted by Kumar C et al, 95.5% of the women were aware of sexual route of HIV transmission. Awareness on mother to child route of HIV transmission is no less important than other route of transmission as timely intervention cansave baby from HIV infection. In our study, only 11.2% of pregnant women were aware of mother to child route of HIV transmission.

In the present study, 73(48.7%) of the respondents said that HIV is preventable, 71(47.3%) said that they don't know while 6(4%) of the women said it was not preventable. In the study by Praveena et al., about 92.6% of pregnant women are aware that HIV is preventable. The most common measure of prevention was the avoidance of unsafe sex (28.64%). In a similar study conducted at Peshawar, only 41% knew that avoiding unsafe sex would lead to prevention of AIDS.<sup>[11]</sup>

In our present study, 46(30.7%) of the respondents said that HIV was curable, and 91(60.7%) didn't know if HIV was curable. This is slightly different to the study conducted by Kumar C et al., where (42.6%) had misconception that HIV/AIDS can be cured by using medicine. Only 54 (30.7%) were aware that HIV/AIDS is not curable and remaining 47 (26.7%) were clueless about curability of the disease. The results of our study are significantly higher than the study conducted by Firth et al., where almost 10% of the 7956 women interviewed believed there is a cure for HIV, and an additional 39% were unsure. In the current study only 55(36.7%) were aware of the availability of the anti-retroviral drugs.

#### Conclusion

The study reflected that 83.4% of the women had heard of the term HIV/AIDS which reflects a relatively high level of awareness about the term but subsequently dropping levels of awareness about the routes of transmission, laboratory diagnosis and the availability of drugs. Only 45.3% of the respondents were aware of ICTC. 56% of women were aware of the routes of transmission, around 40% of the women knew that HIV spreads by sexual contact with an infected person while only 11.9% are aware of mother-to-child-transmission of HIV. Nearly half of the women (48.7%) said that HIV is preventable and the most common measure of prevention was the avoidance of unsafe sex.

The study showed that 21.3% of the women thought that HIV is a disease that affect only pregnant women, only 42.7% were aware about mother to child transmission of HIV and only 32% were aware of anti-retro viral therapy for newborn. 36.7% were aware of the availability of the anti-retroviral drugs. 10.6% were confident that there were no drugs available to treat HIV, while 52.7% were unsure. 58.6% of the women were aware of the tests to detect HIV. Majority (76.7%) of the respondents were willing to undergo HIV testing and 39.3% of them said there was no specific time for get tested. The association table reflects that out of 150 study subjects, 112 subjects were non tribal. Educated among them were 131 subjects and 19 were illiterate. Both these parameters were plotted against awareness level of HIV and chi square test was applied to them. Ethnicity was found to be statistically associated with awareness level with P value being 0.003.

To conclude knowledge towards HIV/AIDS and its prevention can be achieved by encouraging female education. Advocacy, general awareness, health education, safe sex practices, screening of blood and blood products are the best recommended measures to fight HIV.

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