

Knowledge of Hiv/Aids and Attitude toward Voluntary Counselling and Testing among Antenatal Clinic Attendees at a Tertiary Care Center**Shagufta Fatema¹, Varsha Deshmukh², Pallavi W Tidke³, Sanjaykumar Pagare⁴, Pratima Gaikwad⁵**¹Assistant Professor, Dept. of Gynaecological Oncology, Government Medical College and Cancer Hospital, Aurangabad²Professor and HOD, Dept. of Obstetrics and Gynaecology, Government Medical College, Latur³Assistant Professor, Dept. of Gynaecological Oncology, Government Medical College Cancer Hospital, Aurangabad⁴Associate Professor, Dept. of Gynaecological Oncology, Government Medical College Cancer Hospital, Aurangabad⁵Assistant professor, Dept. of Obstetrics and Gynaecology, Government Medical College, Miraj.

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Abstract:

Introduction: Human Immunodeficiency Virus is a retrovirus that causes Acquired immunodeficiency Syndrome (AIDS). In India of estimated 1.8-2.9 million people living with HIV, 39% are women with a national antenatal prevalence of 0.48%. Mother to child transmission (MTCT) is responsible for 90% of childhood HIV infections. The transmission of HIV from infected mother to babies can occur during antenatal period (in utero by transplacental spread), intrapartum period (during delivery through an infected birth canal), a postpartum period (through breast feeding).

Methods: This cross sectional descriptive study was carried out at tertiary care hospital in Department of Obstetrics and Gynecology, Government Medical College Aurangabad. The study protocol was cleared by the institute research and ethics committee of the college.

Results: Out of 500 cases in this study, 300 cases (60%) belonged to 21-25 age group, followed by 130 (26%) belonged to age group <20 yrs. Amongst the study group 270 (54%) were second gravida, 178 (35.6%) were primigravida and 52 (10.4%) were third gravid. Majority of cases were educated up to primary level 305 (61%), 142 (28.4%) were uneducated, 20 (4%) were up to higher secondary. In our study the knowledge regarding sexual intercourse with infected partner was there in 156 (31.2%) women. The role of sharp object and blood transfusion in the transmission was not known to majority of women i.e. 331 (66.2%) and 323 (64.6%) respectively. Most important, the MTCT was not known to 364 (70.4%) of cases.

Conclusion: Antenatal care attending pregnant women's awareness on MTCT and their knowledge on its timing is still low in our country. The lack of adequate knowledge regarding HIV and preventive practices against MTCT may be one of the reasons for HIV transmission from mother to fetus. In absence of an effective vaccine and cure, voluntary counseling and testing appears to be essential in the prevention of MTCT of HIV.

Key words: ANC, HIV/AIDS, MTCT, blood transfusion, sexual intercourse

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Introduction

Human Immunodeficiency Virus is a retrovirus that causes Acquired immunodeficiency Syndrome (AIDS). In India of estimated 1.8-2.9 million people living with HIV, 39% are women with a national antenatal prevalence of 0.48%. [1]

Mother to child transmission (MTCT) is responsible for 90% of childhood HIV infections. [2] The transmission of HIV from infected mother to babies can occur during antenatal period (in utero by transplacental spread), intrapartum period (during

delivery through an infected birth canal), a postpartum period (through breast feeding). [3]

Although MTCT accounts for a little less than 4% of all HIV infection in India it is the cause of approximately 56,700 children infected with HIV each year. [4] The lack of adequate knowledge regarding HIV and preventive practices against mother to child transmission may be one of the reasons for HIV transmission from mother to fetus. In the absence of an effective vaccine and cure, integrated counseling and testing (ICT), consisting

of a minimum of pre and post test counseling, has been used as an entering point for behavior change and access to antiretroviral treatment. [5]

During the past decade, human immunodeficiency virus (HIV) infection has become a leading cause of morbidity and mortality among women, the population accounting for the most rapid increase in cases of acquired immunodeficiency syndrome (AIDS) in recent years. As the incidence of HIV infection has increased among women of childbearing age, increasing numbers of children have become infected through perinatal (i.e., mother to infant) transmission; thus, HIV infection has also become a leading cause of death for young children. [6]

To reverse these trends, HIV education and services for prevention and health care must be available to all women. Women who have HIV infection or who are at risk for infection need access to current information regarding a) Early intervention to improve survival rates and quality of life for HIV infected persons, b) Strategies to reduce the risk for perinatal HIV transmission, c) Management of HIV-infection in pregnant women and perinatally exposed or infected children. [7]

It is also important to understand the disease of AIDS, to practice low risk behavior and to have a knowledge about the available strategies in India. With this intension this study was taken in our center which is tertiary care center to empower the women with the knowledge of the disease and the necessary precautions to be taken to avoid it. To avoid contact with the disease, it is necessary for the women to know the importance of unprotected sex, monogamous relationship and role of breast feeding in MTCT. Thus, this study was undertaken to assess the knowledge of maternal and child transmission of HIV and to give proper information to women about it. This will help the national program of awareness of HIV by NACO.

Material and Methods:

This cross sectional descriptive study was carried out at tertiary care hospital in Department of Obstetrics and Gynecology, Government Medical College Aurangabad during the period from May 2015 to October 2017. The study protocol was cleared by the institute research and ethics committee of the college.

Inclusion Criteria: All ANC patients who were newly booked for antenatal care during the study period.

Exclusion Criteria: participants not willing for participation

A pre test interview based questionnaire was administered to all the participants before they were counseled about HIV/AIDS and the testing done. The pregnant women were told that answering the questionnaire is voluntary and would be handled confidentially.

Sample Size:

Sample size of the study was estimated to be 512 with 5% precision at 5% level of significant, with an assumption of 50% antenatal mothers to have knowledge about HIV. 12 ANC did not take part in the study because they had gone for USG and other blood investigations.

Parameters of the study included knowledge MTCT, attitude toward screening of HIV and integrated counseling. It included socio-demographic information such as age, occupation, level of education, obstetric history, accessibility to the health services (i.e. government or private hospital). The knowledge about the transmission routes of HIV i.e. role of sexual intercourse with infected partner, sharing sharp objects with a infected person, transfusion with infected blood and MTCT was assessed. The knowledge about MTCT i.e. during pregnancy, during vaginal delivery, during cesarean section, or transfusion breast feeding was assessed. The knowledge about prevention of HIV i.e. whether it is preventable, role of abstinence, monogamous relationship was assessed. The role of condom, availability of drugs to treat the disease and the awareness regarding curability of the disease was assessed. The knowledge about the awareness of availability of laboratory test to detect HIV, the test in ICT and the facility where the above tests are done was also assessed.

Data collection: Data for this study was collected using a structural questionnaire, pre-tested using 5% of the sample size, originally prepared in English language and then translated to local language. Data collector was investigator conducted face-to-face interview with pregnant women. Result was expressed as percentages using SPSS v.16 software

Observation and Results:

The data was analysed for total 500 cases taken for study. All the statistical analysis is done in percentage.

Table 1: Distribution of participants according to their age

Age(in year)	No. of cases(n=500)	%
<20	130	26
21-25	300	60
26-30	50	10
>31	20	4
Total	500	100

The age of participants ranged from 18-34 years. Out of 500 cases in this study, 300 cases(60%) belonged to 21-25 age group, followed by 130(26%), belonged to age group <20 yr, and 20(4%) belonged to age >31 yrs. The mean age of the study group was 24 years.

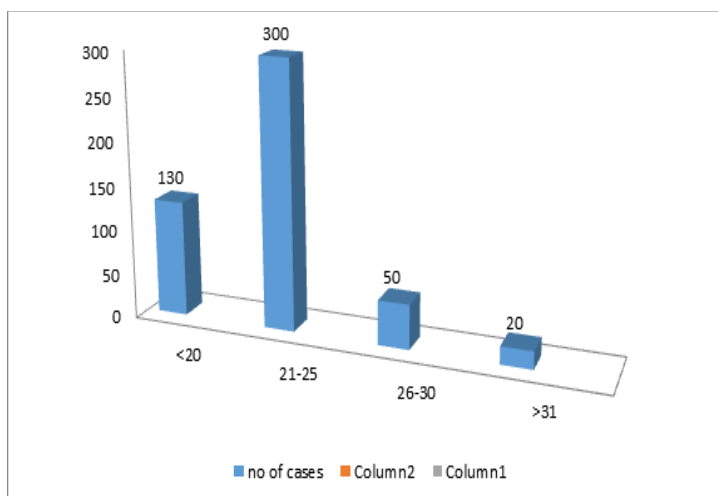


Table no.2: Distribution of participants according to obstetrics History

Gravida	No. of cases n=500	%
Primi	178	35.6
Second	270	54
>3	52	10.4
Total	500	100

Table no.2 shows that out of 500 cases, 270(54%) were secondgravida, 178(35.6%) were primigravida and 52(10.4%) were >third gravid.

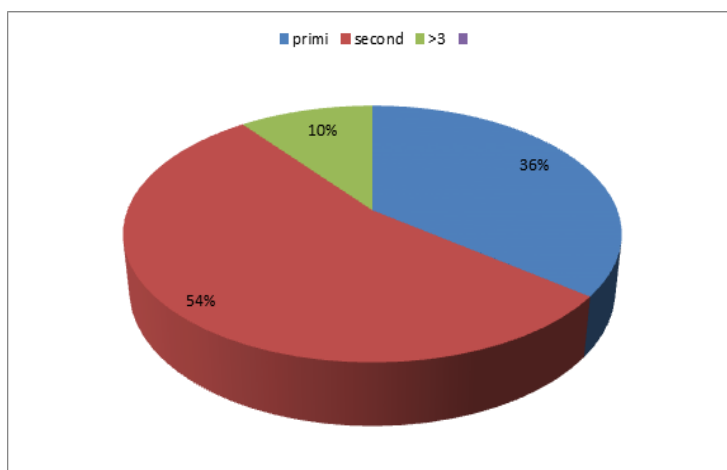


Table 3: Distribution according to knowledge of transmission of HIV

Knowledge of transmission of HIV	Yes (%)	No (%)	Don't know(%)	Total
sexual intercourse with infected partner	156(31.2)	76(15.2)	268(53.6)	500
Sharing sharp object with infected person	124(24.8)	45(9)	331(66.2)	500
Transfusion with infected blood	107(21.4)	70(14)	323(64.6)	500
Mother to child transmission	118(26)	18(3.6)	364(70.4)	500

In our study the knowledge regarding sexual intercourse with infected partner was there in 156(31.2%) women. The role of sharp object and blood transfusion in the transmission was not known to majority of women i.e. 331(66.2%) and 323(64.6%) respectively. Most important, the MTCT was not known to 364(70.4%) of cases.

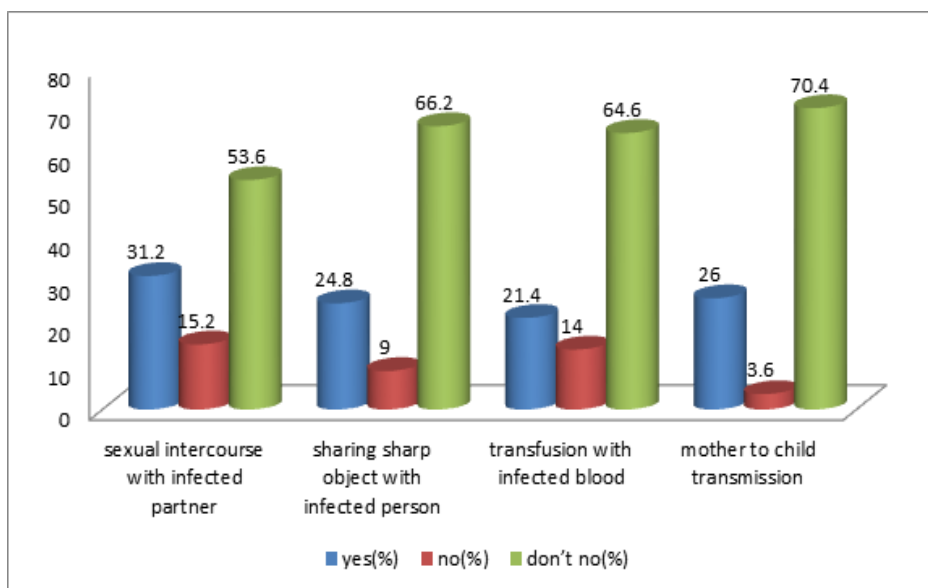


Table 4: Distribution according to knowledge of route of mother-to-child transmission of HIV

Knowledge of mother to child transmission of HIV	Yes (%)	No (%)	Don't know (%)	Total
During pregnancy	211(42.2)	12(2.4)	277(55.4)	500
Through vaginal delivery	145(29)	7(1.4)	348(69.6)	500
Through caesarean section	164(32.8)	34(6.8)	302(60.4)	500
Through breastfeeding	178(35.6)	18(3.6)	304(60.8)	500

The knowledge regarding route of MTCT of HIV during pregnancy was known to 211(42.2%) of women however 348(69.6%) did not know that route of transmission can be vaginal delivery. The role of breastfeeding in MTCT were mostly not know to 304(60.8%) of women.

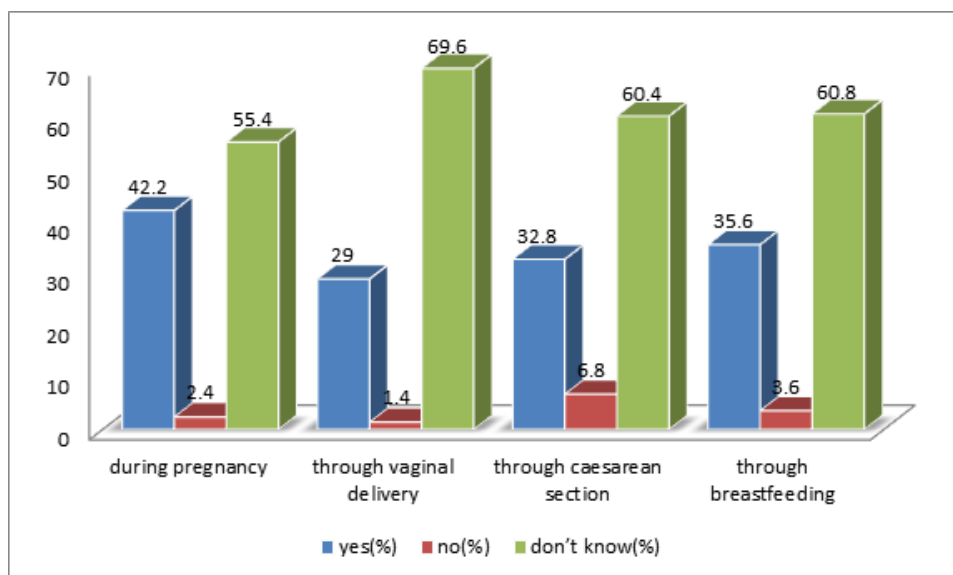


Table 5: Distribution according to knowledge of prevention of mother to child transmission of HIV

Knowledge of mother to child transmission of HIV	Yes (%)	No (%)	Don't know (%)	Total
Antiretroviral therapy during pregnancy	148(30)	22(4)	330(66)	500
Antiretroviral drugs to the newborn	107(20)	3(2)	390(78)	500
Avoid breastfeeding	120(24)	12(2.4)	368(73.6)	500

Prevention of MTCT through antiretroviral therapy during pregnancy was known to only 30% (150) women. The role of antiretroviral drugs to the newborn was practically unknown to 390(78%). The most important finding was that, the role of breastfeeding was not known to 368(73.6%) women. Only 24% (120) know the role of avoiding the breastfeeding in the prevention of MCTC .

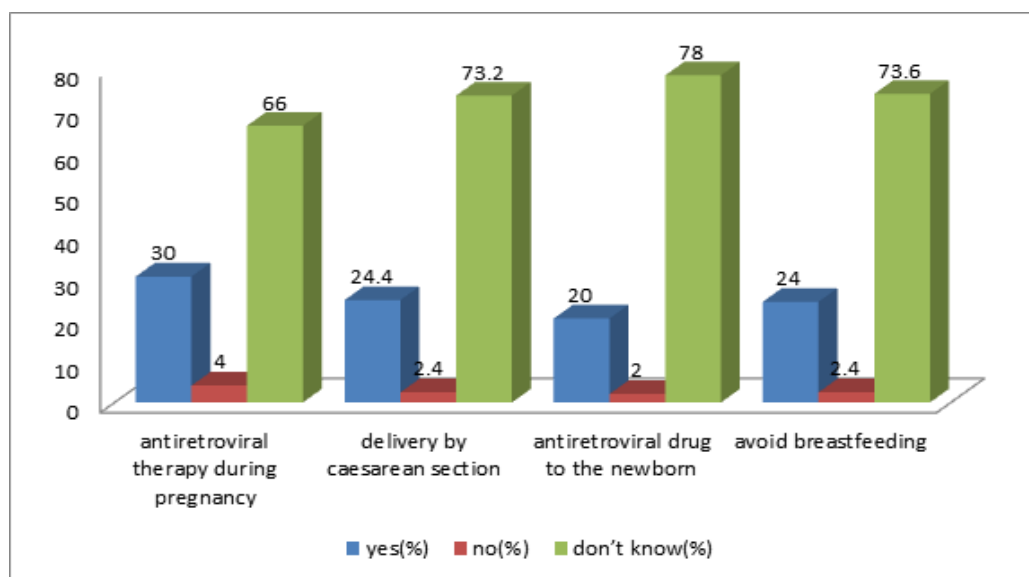


Table no.6: Distribution according to knowledge of integrated counseling and testing for HIV

Knowledge of voluntary counseling and testing for HIV	Yes(%)	No(%)	Don't know(%)	Total
Awareness of laboratory tests to detect HIV infection	130(26)	08(1.6)	362(72.4)	500
Awareness of steps in integrated counseling and testing	100(20)	122(24.4)	278(55.6)	500
Facility where you could get ICT done	126(25.2)	130(26)	244(48.8)	500
Ever been tested for HIV/undergone ICT before	112(22.4)	100(20)	288(57.6)	500

In our study, role of ICTC by lab test was known to 130(26%) patients. Majority of the patients did not know the steps in ICTC (55.6%) i.e. 278 patients. Knowledge regarding the availability of the test was known to only 25.2%(126) patients and majority of patients (57.6%) i.e. 288 did not have any idea regarding undergoing HIV test or ICT before.

Discussion:

Reiterating India’s success story on HIV/AIDS control, the HIV prevalence trend has witnessed significant decline among antenatal clinic attendees considered proxy for general population(0.49% in 2007 to 0.35% in 2012-2013). This is achieved by affective voluntary testing and counseling, access to

antiretroviral therapy, safe delivery practices, and the widespread availability and safe use of breast-milk substitutes.

The WHO promotes a comprehensive approach to prevention MTCT programs which includes;

- Prevention of new HIV infection among women of childbearing age
- Preventing HIV transmission from a women living with HIV to her baby

Providing appropriate treatment, care and support to mother. We have undertaken this project to strength the motives of WHO at Government Medical College Aurangabad, from period of 2015-2017 by giving pre prepared question to 500 womens.

Table a: Age group

Sr no.	Author	Year	Age in years
1	Rena Maimaiti et al	2008	24-26
2	Monika Parmar et al	2016	20-25
3	Sagili H et al	2015	21-25
4	Anteneh Asefa et al	2013	25-34
5	Present study	2017	21-25

In our study 60% belonged to 21-25 years age group which is comparable with Sagili H et al study(8). In a study of Rena Maimaiti et al(2008) majority of cases belonged to age group 24-26 years(32%)(9), In a study of Monika Parmar et al(2016) shows most

of the cases belonged to 20-25 years(48%)(10), In a study Sagili H et al(2015) shows most of the cases belonged to 21-25 years(52.8%)(8), In a study Anteneh Asefa et al(2013) cases belonged to 25-34 years(53.2%). (11)

Table b: Gravida distribution

Sr no	Studies	primigravida	Secondgravida	>Third gravida
1	Monika Parmar et al	48%		51.6%
2	Anteneh Asefa et al	27.2%	55.5%	15.7%
3	Sagili H et al	53.6%	36.5%	15.7%
4	Present study	35.6%	54%	10.4%

In our study 54% were secondgravida. In a study conducted by Monika Parmar et al 51.6% were multigravida(10), In a study conducted by Anteneh Asefa et al 55.5% were secondgravida, (11) In a study conducted by Sagili H et al 53.6% were primigravida.(8)

Table c: Knowledge of transmission of HIV

Knowledge of transmission of HIV	Monika Parmar et al (knows)	Sagili H et al			Rena Maimaiti et al (Knows)	Present study		
		Yes	No	DK		Yes	No	DK
sexual intercourse with infected partner	54.8%	81.1%	0%	73%	51%	31.2%	15.2%	53.6%
Sharing sharp object with infected person	43.5%	51.8%	2.3%	46.9%		24.8%	9%	66.2%
Transfusion with infected blood	29%	53.9%	1.3%	44.8%	30%	21.4%	14%	64.6%
Mother to child transmission	25%	37.6%	1.8%	60.6%	16%	26%	3.6%	70.4%

In our study the knowledge regarding sexual intercourse with infected partner was there in 31.2% women. The role of sharp object and blood transfusion in the transmission was not known to majority of women i.e. 331(66.2%) and 323(64.6%) respectively but in other studies knowledge was there. Most important, the MTCT was not known to 364(70.4%) of cases as compared to Sagili H et al i.e. 60.6% also don't knows. [8]

In the study of Monika Parmar et al not all of them were aware of sexual intercourse as a route of transmission only 54.8% of patients were aware of sexual intercourse as a mode of transmission. 43% were aware of sharing infected needle can transmit infection. Only 29% of patients were aware of blood transfusion as a cause of transmission. Out of study only 25.8% of women were aware of MTCT. 11% of cases did not know how HIV can be transmitted. [10] In the study of Sagili H et al 81% of the subjects

were aware of sexual intercourse as a mode of transmission, only 37.6% were aware of MTCT. Almost 45% of women did not know that sharing sharp object and blood transfusion can result in spread of infection. [8]

In a study of Rena Maimaiti et al 51% knows sexual intercourse with infected partner, 30% knows mode of transfusion with infected blood, while only 16% MTCT. [9]

In a study by Brown H et al(2001), seventy-eight per cent were aware of the risk of perinatal HIV transmission and 36% knew that intervention could reduce the chances of such transmission. Eighty-six per cent would agree to undergo prenatal HIV testing but only 21% of all respondents would make this decision independently while 46% said their husband would have to decide. [12]

Table d: Knowledge of mother to child transmission of HIV

Knowledge of mother to child transmission of HIV	Monika Parmar et al (knows)	Anteneh Asefa et al	Sagili H et al	NO	DK	Present study		
						Yes	No	DK
During pregnancy	51.6%	48.4%	53.6%	2.8%	43.5%	42.2%	2.4%	55.4%
Through vaginal Delivery	01%	58.6%	22.3%	5.7%	72%	29%	1.4%	69.6%
Through caesarean section	08%		15.8%	4.9%	79.3%	32.8%	6.8%	60.4%
Through breastfeeding	12.9%	40.7%	44.3%	2.6%	53.1%	35.6%	3.6%	60.8%

In our study almost half i.e. 55.4% don't know that mode of transmission of HIV during pregnancy, it was seen that in our study 69% patients don't know HIV can be transmitted during vaginal delivery, this is comparable with the study of Sagili H et al, [8]] while in Anteneh Asefa et al study 58.6% were aware that transmission during delivery, most important was that 60.8% don't know mode of transmission by infected breast feeding. [11]

In a study of Monika Parmar et al 51.6% were aware that transmission could occur during pregnancy, 12.9% were aware that infection can also be transmitted by breastfeeding. Only 1% of the women know that HIV can transmit during vaginal delivery. 20% of respondents believed that caesarian section also cause transmission of infection. [10]

In a study Anteneh Asefa et al 48.4% were aware that transmission could occur during pregnancy, 58.6% were aware that HIV can be transmitted during

delivery, 40.7% were know that infection can also be transmitted by breastfeeding. [11] In a study of Sagili H et al half the subject were aware that transmission could occur during pregnancy and 44% were know infection can occur through breast feeding ,72% did not know that transmission occur during vaginal delivery, while 79.3% don't know mode of transmission through caesarean section. [8]

In a study by Momoh MA et al(2010) data were collected from total 1150 volunteers, that was disaggregate by sex but education and social status were not put in to consideration during the study. Higher percentage of awareness and knowledge were found about modes of transmission, high risk factors, self protection, response were favourable with female than male in vertical transmission or through breast milk. Despite of not knowing the HIV status, 25-48% population willingly agreed to undergo test but larger population disagreed. [13]

Table e: Knowledge of mother to child transmission of HIV

Knowledge of mother to child transmission of HIV	Monika Parmar et al (Knows)	Sagili H et al			Present study		
		Yes	No	DK	Yes	No	DK
Antiretroviral therapy during pregnancy	30.6%	44.3%	5.4%	50.3%	30%	4%	66%
Antiretroviral drugs to the newborn	14%	26.2%	4.4%	69.4%	20%	2%	78%
Avoid breastfeeding	27.4%	35.2%	3.1%	61.7%	24%	2.4%	73.6%

In present study although 70% were aware of antiretroviral therapy as a method of prevention of MTCT, which is comparable with Sagili H et al study, two third were not aware of role of drugs for infant or need for avoiding of breastfeeding (78%,73% respectively). Which is comparable with Sagili H et al study. [8]

In a study of Monika Parmar et al only 30.6% knows the role of antiretroviral therapy during pregnancy, only 14% knows antiretroviral drugs given to newborn, while only 27.4% were aware that transmission could be preventable by avoiding breast feeding. [11]

In a study of Sagili H et al 44% were aware of antitroviral therapy as a method of prevention of MTCT, 69.4% patient don't know role of antiretroviral drugs to the newborn, very important that 61.7% don't know that transmission could be preventable by avoiding breast feeding. [8]

In a study by Harms G et al(2003)majority of the respondents 125 (77.6%) were aware that HIV can coexist with pregnancy and 120 (74.5%) were aware of MTCT of HIV. Vaginal delivery and breastfeeding were identified as routes of HIV transmission by 44 (27.3%) and 53 (32.9%) of respondents respectively. Delivery by caesarean section was identified as a method of prevention of MTCT by 25 (15.5%) respondents while as many as 48 (29.8%) respondents did not know any method of prevention of MTCT of HIV. [14]

In a study by Abiodun MO et al(2007) the majority (90%) of the respondents were aware that HIV/AIDS can coexist with pregnancy, but only 68% were aware of mother-to-child transmission. Transplacental route, vaginal delivery and breastfeeding were identified as routes of transmission from mother to child by 65%, 38% and 52% of respondents, respectively. [15]

Table f: Knowledge of integrated counseling and testing for HIV

Knowledge of integrated counseling and testing for HIV	Sagili H et al			Present study		
	Yes	No	DK	Yes	No	DK
Awareness of laboratory tests to detect HIV infection	65.3%	7.5%	27.2%	26%	1.6%	72.4%
Awareness of steps in integrated counseling and testing	18.9%	41.5%	39.6%	20%	24.4%	55.6%
Facility where you could get ICT done	44%	20.7%	35.2%	25.2%	26%	48.8%
Ever been tested for HIV/undergone ICT before	39.1%	42.7%	18.1%	22.4%	20%	57.6%

In present study 72.4% don't aware of laboratory tests to detect HIV infection, Half of the patients 55.6% don't aware of steps in ICT, which is comparable with Sagili H et al, 48.8% don't know facility where you could get ICT done, which is comparable with Sagili H et al, almost half of patients not been tested before ICT, which is comparable with Sagili H et al. [8]

In a study Sagili H et al 65.3% were aware of laboratory test to detect HIV infection, only 18.9% knew about the steps involving to detect HIV, 44% were aware where ICT is done. 35.2% don't know facility where you could get ICT done, 42.7% not been tested for HIV/ undergone ICT before. (8)

Conclusion:

Antenatal care attending pregnant women's awareness on MTCT and their knowledge on its timing is still low in our country. The lack of adequate knowledge regarding HIV and preventive practices against MTCT may be one of the reasons for HIV transmission from mother to fetus. In absence of an effective vaccine and cure, voluntary counseling and testing appears to be essential in the prevention of MTCT of HIV. Taking this into account, strengthening the level of preventive MTCT services in antenatal care setting and devising mechanism to promote involvement of women in preventive MTCT services need to be focused on to increase women's knowledge on MTCT of HIV, in order to reduced its high level in our country.

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