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## **A study to assess the level of knowledge regarding prevention of parent to child transmission of HIV (PPTCT) & early infant diagnosis (EID) among antenatal mothers at selected tertiary care hospital in West Bengal**

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### **Abstract**

**Background:** Globally, mother to child transmission of HIV results in approximately 370000 infant infections each year. HIV Early infant diagnosis (EID) programs aim to detect HIV infection as early as possible in HIV exposed infants and to link them to care and treatment. As per UNAIDS estimates, in 2016 with an adult HIV prevalence of 0.8% and considerable variation between countries, 36.7 million people were estimated to be living with HIV globally. Approximately 1.8 million new infections occurred in 2016 worldwide and approximately 1.0 million people died of AIDS-related illness. Currently, there are 19.5 million patients on ART globally.

**Methods:** A Descriptive hospital based study was conducted on 30 antenatal mothers. Interview Schedule was conducted to assess their knowledge. Knowledge score of antenatal mother has been computed on the basis of correct response to 18 knowledge questions and by converting it to percentage score.

**Results:** After the completion of the study, we find out that 10% of mothers having good knowledge, 57% of mothers having average knowledge & 33% of mothers having below-average knowledge regarding PPTCT & EID.

**Conclusions:** The present study “The Knowledge of antenatal mother regarding prevention of parent to child transmission of HIV (PPTCT) & early infant diagnosis (EID) among antenatal mothers at selected tertiary care hospital in West Bengal”, Thus, the study shows that the knowledge level among antenatal mother about prevention of parent to child transmission of HIV (PPTCT) & Early infant diagnosis (EID) only 10% mother had good knowledge.

**Keywords:** Antenatal mother, knowledge, early infant

### **Introduction**

Acquired Immune Deficiency Syndrome (AIDS) is caused by a human immunodeficiency virus (HIV) that weakens the immune system and makes the body susceptible to various diseases and unable to recover from diseases. HIV/AIDS is one of the most complex health problems in the 21st century and have become a pandemic disease that threatens the world population. Since there is no treatment or cure in sight, the disease continues to spread at an alarming rate <sup>[1]</sup>.

In India, although the overall HIV prevalence among antenatal care (ANC) clinic attendees continues to be at a low level of 0.35%, there is a rising trend of the infection among monogamous pregnant women. Pediatric HIV is thus poised to become another major public health problem. This is likely to happen in our society where childbearing is considered essential for a woman and is accorded high priority. If not detected early, they may continue to bear children who might be HIV infected. This review aims to provide a comprehensive overview of efforts made and challenges in controlling pediatric HIV and to explore evidence-based recommendations <sup>[2]</sup>.

Pediatric HIV/AIDS is a significant cause of childhood morbidity and mortality. More than 90% of the HIV infections in children are the result of maternal-to child transmission (MTCT). The MTCT rate ranges from 20% to 45% in the developing world. It ranges from 15% to 30% in non-breast feeding populations whereas it is 30%-45% in countries where breastfeeding is a norm. This is because breastfeeding has an additional 5%-20% risk of postpartum transmission. With adequate antiretroviral (ARV) prophylaxis, MTCT risk can be reduced to less than 2% the high income countries along with other effective measure

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which include elective cesarean section and avoidance of all breastfeeding. However, these approaches are not always possible in developing countries wherein 95% of vertical transmission occurs.

### Objectives

- To assess the level of knowledge regarding prevention of parent to child transmission of HIV (PPTCT) among antenatal mothers.
- To identify the level of knowledge on early infant diagnosis (EID) among antenatal mothers.

### Methods

#### Study design

In this study, A hospital based descriptive study design was adopted.

#### Study population

The Target accessible of the study includes the antenatal mother who attended antenatal clinic at Sagar Rural Hospital, Rudranagar, Sagar, and who met the criteria that the researcher established for a study.

#### Study area

The study was conducted in Antenatal Sagar Rural Hospital, Rudranagar, Sagar, South 24 Parganas, West Bengal.

#### Sample size

As documented in different literature, the proportion of various heterogeneous (10% - 65%) pattern in knowledge level of antenatal mother. Therefore a sample size is thought to be maximum by assuming the prevalence of 50%. Therefore by adapting the expected 50% of prevalence at 5% of absolute precision and 95% of desired confidence level, the require sample size is 30 Antenatal mother.

#### Sampling method

A Purposive Sampling Technique was adopted to select antenatal mother.

#### Inclusion criteria

- Antenatal mothers having gestational age from 13-35 weeks.
- Antenatal mothers who attend the antenatal check-ups during the data collection period.
- Mothers who can speak and understand Bengali, English.

#### Exclusion criteria

- Mothers who are unwilling to participate in the study.

#### Data collection tool

The study tool considered of two sections:

**Section I:** Demographic variables consist of baseline information of age, occupation, Socio economic status, educational status of antenatal mother, family income per month, marital status.

**Section II:** Structured knowledge questionnaire regarding selected aspects of prevention of parent to child transmission of HIV (PPTCT) & early infant diagnosis (EID).

### Development of tool

A structural questionnaire was used to assess the knowledge regarding prevention of parent to child transmission of HIV (PPTCT) & early infant diagnosis (EID) among spouses of antenatal mother. Prior to the study, written permission can be obtained authorities. Further consent can be taken from samples regarding their willingness to participate in the study. The data will be collected by the investigator himself.

### Data collection

Data was collected by the investigator after obtaining permission from the concerned authorities of selected hospital. Prior to the data collection, the antenatal were seated comfortably in a quiet environment. The investigator was introducing himself, explain the objectives of the study, and obtain consent from the spouses of pregnant woman for maximum cooperation. Each day around 15-20 antenatal mother was interviewed using the closed-ended structured interview schedule.

### Statistical analysis

Data entered in Microsoft excel and analysis was done. Knowledge score of antenatal mothers and their selected socio-demographic variables was done by mean median and standard deviation.

### Ethical clearance and informed consent

The study was carried out after obtaining approval from the institutional Ethical Committee of Kalinga institute of nursing sciences KIIT University Bhubaneswar. The participants were briefed about the purpose of the study and informed consent was obtained prior to the data collection.

### Results

#### 1. Level of knowledge regarding antenatal care among the antenatal mother of pregnant woman those attending antenatal clinic

The level of knowledge among the subjects of that, only 10% had good knowledge the mean knowledge score was 10.9% taken as the arithmetic average of all the scores and median score found 11. The standard deviation which is a measure of the variability stood at 4.11 and quite low.

The majority of the spouses had adequate knowledge (10%) and moderately knowledge (57%). Only 33% have below average knowledge about prevention of parent to child transmission of HIV (PPTCT) & early infant diagnosis (EID). Knowledge score with age of antenatal mother. This section describes the findings related to the Demographic profile of antenatal mothers regarding PPTCT & EID, those who present during data collection which study is conducted in Sagar Rural Hospital <sup>[3, 5]</sup>. It prepared for the collection of Demographic data of a sample of the study, for age group divided into four, sample age groups are between 20-30 years, 31-40 years, 41-50 years & >50 years. For the religion of the sample categorized into four, Hindu, Muslim, Christian, and others, mostly are belonged from Hindu (87%). The family income of the sample is categorized into seven, where most are from which is 750-999 rupees per month group (33%). For the education, samples are categorized in 4 divisions in which most of them got secondary education (40%). In the occupation division, it is divided into 4 categories among them most of them are self-employed (50%). For the marital status division, most of the

sample groups are married (83%). In graph no. VI, it is showing that most of the students are gain knowledge regarding HIV/AIDS from Health care workers, about 60%. Electronic media and publishing media is also helpful for gain knowledge.

**Table 1:** Mean, median, and standard deviation of knowledge score of mothers

Descriptive statistics of knowledge score	
Statistic	Knowledge score
N	30
Mean	10.9
Median	11
SD	4.11

**Table 2:** Frequency and percentage distribution according to knowledge score

Knowledge score	Frequency (f)	Percentage (%)
Below average	10	33%
Average	17	57%
Good	3	10%

**Table 3:** Description of demographic variables

Demographic characteristics	Frequency (f)	Percentage (%)
<b>Age in year</b>		
20-30	9	30%
31-40	20	67%
41-50	1	3%
≥ 51	0	0%
<b>Religion</b>		
Hindu	26	87%
Muslim	4	13%
Christen	0	0%
Other	0	0%
<b>Income per month</b>		
<5000	10	33%
5001-10000	15	50%
10001-15000	3	10%
15001-20000	2	7%
<b>Education</b>		
No formal education	1	3%
Primary education	11	37%
Secondary education	12	40%
Graduate and above	6	20%
<b>Occupation</b>		
Government employee	5	17%
Self employed	15	50%
Unemployment	7	23%
Daily labour	3	10%
<b>Marital status</b>		
Married	25	83%
Unmarried	5	17%
Widow	0	0
Divorce/separated	0	0
<b>Government scheme</b>		
Yes	15	50%
No	15	50%

## Discussion

The 1st objective of the study was, to assess the level of knowledge regarding the prevention of parent to child transmission of HIV (PPTCT) among antenatal mothers. The respondents have average knowledge regarding PPTCT. In questionnaire 24 multiple types of questions are given to

respondent during data collection, each question contains 1 mark, where maximum marks achieve by the respondent is 20 marks and the minimum is 1 mark. In the knowledge of mothers Mean is 10.9, Median is 11 and the Standard Deviation is 4.11. In data collection by questionnaire, no one answered correctly of all 24 questions. Among 30 mothers maximum i.e. 57% have average knowledge, 33% have below-average knowledge & 10% of mothers have a good knowledge regarding PPTCT. The 2nd objective of the study was, to identify the level of knowledge on early infant diagnosis (EID) among antenatal mothers. With the help of the questionnaire containing 24 multiple choice questions containing 1 mark each, the highest score achieved is 20 & the least score achieved is 1. In the knowledge of mothers Mean is 10.9, Median is 11 and the Standard Deviation is 4.11. With the help of the questionnaire after the data collection, we identify that e 57% have average knowledge, 33% have below-average knowledge & 10% of mothers have a good knowledge regarding EID.

## Conclusion

The present study assessed the knowledge among antenatal mother care and found that the antenatal mother had only 10% good knowledge prevention of parent to child transmission of HIV (PPTCT) & early infant diagnosis (EID).

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## Declarations

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**Conflict of interest:** None

**Ethical approval:** The study was carried out after obtaining approval from the institutional Ethical Committee of KIIT Deemed to be University, Bhubaneswar, Odisha.

## References

1. World Health Organization. WHO recommendations on health promotion interventions for maternal and new born health. Geneva: World Health Organization 2015.
2. National AIDS Control Organization (NACO), Ministry of Health and Family Welfare, Government of India Prevention of Parent to Child Transmission (PPTCT). New Delhi 2007.
3. Kumar R, Virdi NK, Lakshmi PV, Garg R, Bhattacharya M *et al.* Utility of Prevention of Parent-to-Child Transmission (PPTCT). Program data for HIV surveillance in the general population. Indian J Med Res 2010;132:256-259.
4. Nkenfou CN, Lobé EE, Ouwe-Missi-Oukem-Boyer O, Sosso MS, Dambaya B, Gwom LC *et al.* Implementation of HIV early infant diagnosis and HIV type 1 RNA viral load determination on dried blood spots in Cameroon: challenges and propositions. AIDS Res Hum Retrovirus 2012;28:176-81.

5. Joshi U, Kadri A, Bhojiya S. Prevention of parent to child transmission services and interventions - coverage and utilization: A cohort analysis in Gujarat, India. *Indian J Transm Dis* 2010;31:92.
6. World Health Organization. Mother to Child Transmission of HIV. Geneva: World Health Organization. Available from URL: <http://www.healthizen.com/pregnancy/antenatal-care.aspx>. Accessed 26/01/2014.
7. Seguy N, Hladik W, Munyisia E, Bolu O, Marum LH *et al*. Can data from programs for the prevention of mother-to-child transmission of HIV be used for HIV surveillance in Kenya? *Public Health Rep* 2006;121:695-702.
8. Anand Pandav Nath. Study on the impact of AIDS on the economy of India, *National Medical Journal of India* 1999;31:377-381.
9. Park K. Preventive and social medicine. 24th ed. Jabalpur. Bhanarsidas Bhanot Publishers, New Delhi 2017.