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ORIGINAL ARTICLE

KAP Study on HIV/AIDS Among Antenatal Women Attending Central Referral Hospital of North East India

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About the Author

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Abstract

Background This study was conducted to determine whether antenatal mothers in Sikkim have adequate knowledge about awareness, attitude, and preventive practices regarding HIV infection.

Methods Cross-sectional study using structured questionnaire. 220 Antenatal mothers attending the outpatient department of Central Referral Hospital of Sikkim were taken for the study for a period of 1 year from April 2011 to April 2012. Questionnaire form filled by pregnant women during their first antenatal visit was the source of data for this study. Systematic sampling technique was used where every alternate pregnant women registering for ANC visit were voluntarily recruited into the study.

Results 2.27 % (5) women had not heard about HIV. 84 % (38) women had the knowledge that HIV was related to STI, while 50 % (110) did not. Television was the best method of increasing the knowledge (48 %). 68 % (150) of the women were aware about mother-to-child transmission (MTCT) of HIV during antenatal period. Only 2.66 % (6) women knew that HIV can be transmitted to child through breast milk. 90 % (198) knew that HIV is spread by having

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unsafe sex, 48 % (106) women knew using condoms would protect against it. 69.4 % (153) women wanted partner testing, and 84 % (185) of women consented that all pregnant women should be tested for HIV.
Conclusions The current study revealed high levels of knowledge, positive attitude, and preventive practices regarding HIV; however, this population lacked knowledge about MTCT and its prevention.

Keywords Antenatal · HIV · Transmission · Prevention · Services

Abbreviations

AIDS	Acquired immune deficiency syndrome
ANC	Antenatal care
HIV	Human immunodeficiency virus
KAP	Knowledge attitude practice
MTCT	Mother-to-child transmission
NACO	National AIDS control organization
OBG	Obstetrics and gynecology
OPD	Out-patient department
PMTCT	Prevention of mother-to-child transmission
PPTCT	Prevention of parent to child transmission
SMIMS	Sikkim Manipal Institute of Medical Sciences
STI	Sexually transmitted infection
VCTC	Voluntary Counselling and Testing Centre
WHO	World Health Organization

Introduction

India has a population of 1.2 billion people, half of whom are adults in the sexually active age group. HIV epidemics are more severe in the southern half of the country and the far north-east. Demographically, the second largest country in the world, India has also the third largest number of people living with HIV/AIDS. Government of India estimates that about 2.40 million Indians are living with HIV (1.93–3.04 million) with an adult prevalence of 0.31 % (2009). Children (<15 years) account for 3.5 % of all infections, while 83 % are the in age group 15–49 years. Of all HIV infections, 39 % (930,000) are among women [1]. The route of acquiring HIV in babies is through vertical transmission during pregnancy, delivery, or breast feeding. HIV initially was more prevalent among female sex workers in the cities of Mumbai and Chennai, and injecting drug users in the north-east of the country (especially in the state of Manipur [2]).In 2006, NACO reported HIV prevalence of 2.4–19.8 % among clusters of injecting drug users in north-eastern states [3]. Sikkim, one of the North-Eastern States of India, is divided into four districts, i.e., East, West, North, and South. East district has the maximum population. Sikkim's current population is estimated to be 632,820 (6.32 Lakhs) in 2014 [4].Current HIV status in Sikkim have reported 240 people as HIV positive with cases on a rise and sex as the main route of transmission in Sikkim (87 %) followed by injecting drug use (7 %) [5]. The transmission of HIV infection from the mother to the child constitutes a global challenge especially for developing countries. In the absence of any intervention, the risk of infection of HIV-exposed children can be as high as 25 % for HIV type 1 and 4 % for HIV type 2 [6].

The participation of pregnant women in the process and accessibility to prevention of mother-to-child transmission (PMTCT) information can prevent serious implications. Some authors have argued that most of the knowledge is on sexual transmission of HIV, while knowledge on specific aspects of PMTCT is sparse among women of reproductive age [7, 8]. The table given below shows that HIV is most prevalent in the reproductive age group in Sikkim [5]. Hence, the purpose of this study is to assess the knowledge on transmission and prevention of HIV among pregnant women in Sikkim so that effective plans and programs can be made according to the need to reduce infection to women and thus MTCT of HIV.

Age wise—HIV cases in Sikkim (01/05/2012)

Sl. no.	Age	Male	Female	Total
1.	Below 10	4	3	7
2.	11–19	3	3	6
3.	20–29	48	51	99
4.	30–39	60	22	82
5.	40–49	26	6	32
6.	50–59	8	2	10
7.	60 Above	3	1	4
Total		152	88	240

Modes of transmission of HIV cases in Sikkim (01/05/2012)

Sexual	IDU	PPTCT (vertical transmission)	Blood and blood products	Not specified	Total
206	16	6	6	6	240

Goal of the Study

The goal of the study will be to determine whether antenatal mothers attending the antenatal OPD of a referral hospital in Sikkim have adequate knowledge about awareness, attitude and preventive practices regarding HIV infection in Sikkim.

Specific Objectives

1. To assess the knowledge attitude and preventive practices in antenatal mothers regarding HIV infections.
2. To determine the knowledge about MTCT of HIV infection in antenatal mothers.

Methodology

Study Period Antenatal mothers attending the outpatient department of OBG in Central referral hospital of Sikkim Manipal Institute of Medical Sciences (SMIMS), Sikkim, India, were taken for the study.

Study design Cross-sectional study using structured questionnaire was used for the study.

Study area and period This study was done for a period of 1 year from April 2011 to April 2012.

Study population There are approximately 500 ANC registrations per year in the Central Referral hospital of SMIMS, therefore, keeping 5 % margin of error with 95 % confidence interval the minimum sample size would be 218, and hence, 220 pregnant women were taken for the study.

Data collection and management The source of data for this study was the questionnaire form filled by pregnant women during their first antenatal visit. Systematic sampling technique was used where every alternate pregnant women registering for ANC visit were voluntarily recruited into the study after a careful explanation of the objectives of the study and their consent duly obtained.

Inclusion criteria Study subjects were pregnant women attending antenatal clinic for first time, regardless of gravid status and duration of pregnancy and willing to participate in the study.

Exclusion criteria Not willing to participate in the study and very sick unable to communicate.

Results

Knowledge

Knowledge about HIV in antenatal mothers attending the outpatient department was evaluated using various questionnaires (Table 1). 2.27 % (5) women had not heard about HIV. 81.4 % (179) women knew there was a blood test for detection of HIV, while 5.33 % (12) did not. Evaluation of knowledge regarding relationship between HIV and STI showed that 84 % (38) women had the knowledge that HIV was related to STI, while 50 % (110) of the women did not. 68 % (150) of the women in our study knew about MTCT of HIV, 10 % (5.33) did not believe that HIV gets transmitted from mother to child during pregnancy and 27.3 % (60) did not know about it. Only 58.3 % (131) of the women knew that the reports of HIV tests were kept confidential and to 28.6 % (63) it was new information, while 12 % (26) believed that reports were not kept confidential.

Our study showed that media was the best method of conveying information about HIV (Table 2). Majority of the women had heard about HIV from television (48 %) followed by information conveyed through health professionals (25.4 %). Our study also showed that HIV is hardly discussed among friends. 12 % of women also had education about HIV in school.

Evaluation of the knowledge about mode of infection (Table 3) showed that 90 % (198) of the women in our study knew HIV is spread by having unsafe sex whereas knowledge about MTCT was very less, i.e., only 2.66 % (6) women knew that HIV can be transmitted to child through breast milk.

Practice

Questionnaire regarding protection against HIV (Table 4) showed that 48 % (106) women knew that using condoms and 18.6 % (41) women knew that having monogamous relationship would protect against HIV. 11.3 % (25) women knew that using sterile needle and 2.6 % (6) women knew that using screened blood would prevent HIV transmission. However, only 2 % (4) knew that MTCT of HIV can be prevented by avoiding breast feeding. When women were asked if need arise where they would go for HIV testing and counseling; 77.7 % (171) said that they would visit VCT Centers in hospital. 14 % (21) women wanted to visit a private practitioner, while 8 % (12) would opt for other means (Table 5).

Table 1 Knowledge

	Yes (%)	No (%)	Do not know (%)
Heard of HIV/AIDS	215 (97.7)	5 (2.27)	
Blood test to know whether someone has HIV or not	179 (81.4)	12 (5.33)	29 (13.3)
Connection between HIV and other sexually transmitted disease	84 (38)	26 (12)	110 (50)
HIV coexists with pregnancy	150 (68)	10 (5.33)	60 (27.3)
Report confidentiality	131 (58.3)	26 (12)	63 (28.6)

Table 2 Source of information

Television	106 (48 %)
Radio	16 (7.4 %)
Newspaper	18 (8 %)
Doctor/hospital	56 (25.4 %)
Friend	Nil
School	26 (12 %)
Others	31 (14 %)

Table 3 Mode of infection

Unsafe sex	198 (90 %)
Blood n body fluids	Nil
Needle injury	9 (4 %)
Mosquito bite	Nil
Kissing	Nil
Sharing clothes	1 (0.6 %)
Breast feeding	6 (2.66 %)
Infected mother to child	6 (2.66 %)

Table 4 Protection against HIV

Condom use	106 (48.18 %)
Sterile needle	25 (11.33 %)
Avoid breastfeeding	4 (2 %)
Using screened blood	6 (2.6 %)
Stick to one sexual partner	41 (18.6 %)

Table 5 Place for testing

Voluntary testing and counselling centre (hospital)	171 (77.7 %)
Doctors	21 (14 %)
Others	12 (8 %)

Table 6 Attitude toward testing

	Yes (%)	No (%)	Do not know (%)
Willing to take care of infected family member	176 (80)	44 (20)	
Invite partner for testing	153 (69.4)	32 (14.6)	35 (16)
All pregnant women testing	185 (84)	16 (7.4)	19 (8.6)

Attitude

Attitude of pregnant women regarding HIV (Table 6) showed that majority of the women had a positive attitude toward people infected with HIV as 80 % (176) were willing to take care of the infected family member. 69.4 % (153) women knew that their partners needed testing too, while 14.6 % (32) did not want their partners to be tested and 16 % (35) of pregnant women were not aware of partner testing. 84 % (185) of women consented that all pregnant women should be tested for HIV, while 7.4 % (16) women were against it.

Discussion

Main Findings

Pregnant women susceptible to HIV and its transmission to the fetus provide a unique opportunity for implementing preventive strategy against HIV infection of newborn babies. The average HIV prevalence among women attending antenatal clinics in India is 0.40 % and in Sikkim antenatal clinic HIV prevalence in 2010–2011 was 0.09 % [9]. Many studies suggest that pregnant mothers and their families need more education about MTCT of HIV. A study was done to evaluate effectiveness of teaching program on knowledge, attitude and practices regarding the HIV/AIDs among 100 pregnant women attending antenatal clinic in lady Goshen Hospital, Mangalore—Karnataka [10]. These women were initially assessed for KAP regarding HIV/AIDS by intervening then the participants were educated about HIV/AIDS by trained counselors using visual aids in local language then same KAP schedule was utilized to find out the effectiveness of the teaching program. In pretest session, a majority of women knew about HIV, i.e., 95(95.00 %), but were unaware whether HIV-positive mother can transmit infection to her baby 55(55.00 %). Hence the study concluded that the level of awareness and knowledge of HIV/AIDS among pregnant women attending antenatal clinics seems to be superficial; more education and knowledge about MTCT are needed in India. Similarly in our study we found that the knowledge of HIV is good but knowledge about MTCT and safe practices to reduce transmission is very less. 68 % of women in our study knew that HIV can coexists in pregnancy but only 2.66 % (6) knew that HIV can be transmitted to baby during pregnancy and only 2.66 % (6) knew it can be transmitted through breast milk. A structured questionnaire was used to obtain data from 172 women that consecutively attended the antenatal clinic of University of Maiduguri Teaching Hospital, Nigeria, to determine their level of knowledge, practice and attitude toward PMTCT [11]. This study showed that Knowledge on modes of transmission, risky behaviors, and prevention of HIV and other STIs was high among the women. The use of breast milk substitute by HIV-positive nursing mothers and condom during sexual intercourse did not receive very encouraging responses from 42 (24.4 %) and 58 (33.7 %) of the women, respectively. Those that discourage BMS indicated spouse dislike as a

major reason. The pregnant women accepted PMTCT as a veritable means of preventing infants from HIV infection and a means to determine HIV status. Majority implored greater involvement of male partners and other family members during PMTCT counseling sessions. In our study, 14.6 % of pregnant women did not want their partners to be tested: however, majority of the women (84 %) wanted their partners to be tested,, while 8.6 % were unaware of partner testing. Our study showed that women had a positive attitude toward those infected with HIV as 69.4 % were willing to take care of infected family member. 84 % of women in our study wanted all pregnant mothers to be tested for HIV, while 8.6 % did not know if it was necessary.

A study done in South Central China [12] from February 2005 to March 2006 to assess pregnant women's awareness and knowledge of MTCT of HIV showed that all individuals were aware of HIV/AIDS unlike our study where 5 women weren't aware of HIV. Majority of women (91 %) in the study done in China were aware that HIV/AIDS can coexist with pregnancy but only 64 % had heard about MTCT. Their study concluded that the level of awareness and knowledge of HIV/AIDS among pregnant women was superficial; more education and knowledge about MTCT was needed in China. Similarly in our study 68 % were aware that HIV/AIDS can coexist with pregnancy but only 2.66 % had heard about MTCT during pregnancy and breastfeeding.

Since breastfeeding is a significant and preventable mode of HIV transmission to infants, there is an urgent need to educate, counsel and support women and families to make decisions about feeding babies in the context of HIV. However, cultural factors and the stigma associated with HIV and AIDS might contribute to limited knowledge about MTCT through breastfeeding. A descriptive research survey with 100 pregnant women during antenatal visits at a particular clinic at Polokwane municipality, South Africa, using self-constructed questionnaires was done to determine pregnant women's knowledge about MTCT of HIV/AIDS infection through breastfeeding. [13] The findings of the study revealed a high level of awareness of HIV and AIDS and a low level of knowledge about MTCT of HIV and AIDS infection through breastfeeding similar to our study in Sikkim Manipal Hospital. Based on the conclusions, a revised health education program was proposed for the Maternal and Child Health field in Polokwane; hence, we too need to do more of health education programs among antenatal mothers regarding MTCT and safe practices.

Conclusion

The current study revealed high levels of knowledge, positive attitude, and preventive practices (KAP) regarding HIV; however, this population lacked knowledge about MTCT and its prevention. Although the Voluntary Counselling and Testing Centres are present adequately, their functioning to increase women's knowledge on MTCT is to be evaluated so that necessary steps can be taken to reduce the MTCT of HIV in North East India.

Strength and Limitation

This study would have been more reliable with statistical power if other district hospitals would have been included in this study; but, based on the geographical distribution of population in Sikkim, this study was done in the referral hospital located in the east district which is the most populated; hence, it represented the population well.

Compliance with Ethical Standards

Conflict of interest There is no conflict of interest among the authors. This study has been approved by the institutional review board of Sikkim Manipal Institute of Medical Sciences.

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