

## ORIGINAL ARTICLE

**Convergence of PPTCT with RCH Services in a District Hospital, Haryana**Puneet Bhagat<sup>1</sup>, Vijay Kumar Tiwari<sup>2</sup>, Sherin Raj<sup>3</sup>, Kesavan Sreekantan Nair<sup>4</sup>, Lam Khan Piang<sup>5</sup><sup>1</sup>Ex-Post Graduate Resident (M.D. Student), <sup>2</sup>Professor, <sup>3</sup>Assistant Research Officer, <sup>4</sup>Assistant Professor, <sup>1,2,3,4</sup>Department of Planning and Evaluation, National Institute of Health and family Welfare, Munirka, New Delhi,<sup>5</sup>Assistant Professor, JNU, Munirka New Delhi, 110067

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**Corresponding Author**

Address for Correspondence: Vijay Kumar Tiwari, Professor Department of Planning and Evaluation , National Institute of Health and family Welfare, Munirka, New Delhi, 110067

E Mail ID: vktiwari.nihfw@gmail.com

**Citation**

Bhagat P, Tiwari VK, Raj S, Nair KS, Piang LK. Convergence of PPTCT with RCH Services in a District Hospital, Haryana. Ind J Comm Health. 2014;26(1):03-09.

**Source of Funding :** Nil, **Conflict of Interest:** None declared**Abstract**

**Background:** The integration of PPTCT and RCH activities is an important strategy for universal screening of ANC mothers through available government health infrastructure in a district. The objective of this study was to understand process and analyzing outcome of convergence of PPTCT & RCH services in a District Hospital. **Methods:** The study was a descriptive study conducted in district hospital, Gurgaon. **Results:** In the district hospital Gurgaon percentage of women counseled at ICTC has increased from 77% to 89.4% and percentage of women tested has increased from 75% to 87.8% during 2010 and 2011. However, not all women tested positive delivered at hospital. Only 6.7% women were knowing about transmission of HIV from mother to baby. About 60% ANC registration are delayed primarily due to lack of family support (71%). Majority of ANC women got HIV screening at district hospital due to non-availability of facility at CHC/PHC levels. About 58% of Institutional deliveries in the State are in private hospitals, but they still need to be involved in PPTCT. **Conclusion:** Currently, convergence of PPTCT and RCH services seems to be fragmented and at initial stage. Convergence need to be taken up at policy, planning, implementation, capacity building, resource mobilization and monitoring for success of the initiative in the state.

**Key Words**

ANC; ART Convergence; HIV; HACS; ICTC; PPTCT; RCH Services

**Introduction**

The prevention of mother-to-child transmission of HIV is an important public health concern in India. Globally there were about 34 million people living with HIV and 3.4 million children living with HIV in 2010. There were 0.39 million new infections in children world over in year 2010. (1) Transmission rate for parent to child in India was 5.4% for year 2009. (2) Even though there are about 27 million pregnancies which are occurring in India, only 20% (5.5million) women were tested for HIV and only a third were detected in 2009. The proportion of women who are detected HIV positive during pregnancy and those who are given ART was about 17.4% in year 2009. (3) NACO estimates that 57,000 children are infected at birth in India each year, and out of over 70,000 children living with HIV registered in 2009, only approximately one third received ART. Without treatment, these newborns have 30% chance

of becoming infected during mother's pregnancy, labor, or through breast feeding after six months. (2)

Garcia PM et al studied the vertical transmission of HIV from mother to fetus during the antenatal period and found that the peri-natal transmission may relate more to the trans-placental transfer of virus or exposure to virus in the genital tract than to the timing of transmission. (4) In study by European Mode of Delivery Collaboration, it has been found that Caesarean Section in HIV positive women is one of the intervention which reduces the chance of HIV infection being passed to newborn without significantly increasing risk to mother. (5) In another study by American Congress of Obstetricians and Gynecology (6), it was concluded that in the absence of antiretroviral therapy, the risk of vertical transmission is approximately 25%. With ZDV therapy, the risk is reduced to 5–8%. When care includes both ZDV

therapy and scheduled cesarean delivery, the risk is approximately 26% and the ARV to mother during pregnancy & labour and to newborn up to 6 weeks reduced transmission rate from 25% to 8%. In study by Laura A. Guay et al (7) it was inferred that Nevirapine lowered the risk of HIV-1 transmission during the first 14-16 weeks of life nearly by 50% in breastfeeding population and was suggested that simple and inexpensive regimen could decrease mother to child HIV-1 transmission in less developed countries.

Breast feeding can itself lead to transmission of HIV virus to infant (8). If HIV mother does not receive ARV and has to give either partial or mixed breastfeeding the transmission rates can vary. In India breast feeding is to be done exclusively till first six months and then extended up to 2 years (9). Standard guidelines says "when antiretroviral drugs are not (immediately) available, breastfeeding may still provide infants a greater chance of HIV-free survival.(8) The Counselling and Voluntary Testing Guidelines suggests, the HIV positive woman and husbands require health services to provide them with option to have contraception to avoid unwanted pregnancy which will also cut the likely number of new infections. (8)

The PPTCT programme was initiated in India in 2002. This aimed at integrating universal HIV screening as a component of ANC checkup and providing maternal health services to HIV positive women including PPTCT with follow-up till 18 months to mother and child pair (10,11). To increase testing of HIV mothers from 21% (as per NACO 2010 report), Government has taken up new initiative (12). These are firstly; community based HIV screening by ANM among pregnant women who are not able to come to health facility. Secondly; expansion of ICTC facilities to all 24 X 7 facilities (including PHCs) in collaboration under NRHM thirdly; testing of every direct walk-in/emergency labour room case using the user friendly whole blood finger prick testing, fourthly; convergence with NRHM and securing the involvement of ASHAs in demand generation for PPTCT services through incentive-based schemes. In India, Karnataka, Andhra Pradesh and few other States have successfully integrated RCH-HIV to prevent HIV transmission from parent to child in April 2008. (13, 14)

Though Government of India instructions for HIV screening during ANC checkup communicated to all states but not implemented in the district health systems barring few southern states.

### Aims & Objectives

Therefore, present study is conducted with the objective of analyzing process, perspectives of

providers and users and extent of convergence of PPTCT & RCH services in a District Hospital Gurgaon in view of low level of programme implementation in the state.

### Material and Methods

The present article is extracted from the M.D. Dissertation titled "Convergence of PPTCT and RCH Services at District Hospital, Gurgaon, Haryana". A descriptive cross sectional research design is used in the study. In order to calculate the sample size, we have used the estimated ANC cases (P) screened for HIV (15-20%) , level of significance (5%) and level of error 5 % and applied the formula  $Z^2 \times P \times (1-P)/(\text{Error})^2$ . A sample of 200 users (ANC referred women tested for HIV at ICTC) of RCH and PPTCT services in the District Hospital was selected using systematic random sampling. Based upon average number (twenty) of pregnant mothers, advised for HIV testing in 2011 in Gynecology OPD in the district hospital, it was decided to interview daily ten randomly selected mothers in each OPD taking sampling interval as 2 during 20 days period. The study protocol was approved by the Academic Committee and Ethical Committee of the Institute. All respondents were explained purpose of study and informed that participation was voluntary and they might withdraw from interview at any stage.

From providers category, two senior doctors, two counselors, 2 lab technicians, 4 pharmacists, 2 matrons, 2 staff nurse, 2 blood bank technician, 2 ASHA and 2 ward attendants from the Department of Gynecology and Obstetrics who were involved in providing RCH & PPTCT services were randomly selected. Thus a total of 20 service providers were interviewed in the study. Primary data from ante natal cases and service providers was collected to describe the provider's knowledge, skills and attitude for HIV/AIDS, technical competency, knowledge of PPTCT and HIV, opinion about convergence in program, motivation and involvement of providers from the Gynecology Department in the PPTCT program, user's awareness about HIV/AIDS and service utilization etc. using combination of techniques like interviews with providers and ANC cases (users), observations of services. The analysis of hospital records was also done to find out utilization of services. The data collection was completed during September to December, 2011. The data from beneficiary was analyzed using SPSS version 16.0. The content analysis technique was used to analyze data collected from service providers and the hospital records.

### Results

**RCH and PPTCT Services at District Hospital, Gurgaon in the District Hospital Gurgaon,** 2 ICTC Counsellors and 2 Lab Technicians are appointed by Haryana AIDS Control Society (HACS). Following are the service statistics regarding convergence of services in 2010 and 2011 given in [Table 1](#).

As per above table ANC registration has reduced in last two years. Percentage of women counseled at ICTC has increased from 77% to 89.4% and percentage of women tested has increased from 75% to 87.8% during this period. However, not all women who reported for ANC got counseling and further 2% did not went for testing after receiving counseling. Also, few women did not come to collect report. In year 2010, ten women tested positive, out of them only 3 were delivered at hospital. But in year 2011, out of twelve women tested positive only three were given natal services at District hospital (1 had normal vaginal delivery and 2 got caesarean section).

#### **Process of Availing PPTCT Services at District Hospital, Gurgaon**

After registration and checkup in ANC OPD, women were referred to Integrated Counselling and Testing Center (ICTC) in the same building where address, personal details and phone number recorded. Women were given unique PIN (Patient Information Number) which was then recorded on the Registration Card of the woman. The pregnant woman was being counseled by ICTC Counselors, mostly in groups as there was heavy workload. Counseling for husband and wife were done separately. ICTC Counselor used pamphlets, posters on the wall and flip chart to counsel women.

Verbal consent was taken from woman for HIV testing. Lab technicians appointed by Haryana AIDS Control Society (HACS) first took sample for HIV Test and then sending the woman to Hospital Lab for routine ANC tests. HIV test report was usually given in 1 hour and was written on the registration card itself. If the report is positive, women were explained about it and counseled individually. If husband has accompanied woman, he was also counseled and his HIV testing was also done.

HIV positive women and their husbands were sent for confirmatory test and CD4 count to tertiary care Safdarjung Hospital, New Delhi. An NGO called 'Network of Positive People (NPP)' took HIV positive people to Safdarjung Hospital (a government tertiary care hospital in Delhi) once a month by arranging transport. At Safdarjung Hospital records of all the positive people were maintained as per NACO guidelines. ICTC Counselor at Gurgaon District Hospital maintained liaison with Counselors at Safdarjung

Hospital, New Delhi. HIV positive pregnant women were regularly called for follow-ups for CD4 counts, also counseled for stress and checked for other health problems at Safdarjung Hospital. Counselors at ICTC facilitate regular ANC checkups and caesarean section of HIV positive women. If couples decided to go for MTP, then they were also helped by ICTC counselors.

ICTC counselors store adequate delivery kits and ARV for mothers and newborns. This is administered 6 hours before caesarean section and within 72 hours for newborn. Women were advised not to give their breast milk and suggested alternate feeding like powder milk if they woman could afford, otherwise advised for cow/goat milk. Follow up during breastfeeding was also done regularly by Counsellor. Newborns were checked in the hospital and list of HIV positive children was maintained at ICTC.

#### **Users Perception and Utilization of services**

##### *Socio-economic and Demographic Profile of Respondents*

The age distribution of respondents indicates that pregnant women coming for ANC were highest (54.5%) in age group of 20-24 years. One fifth women were illiterate. Majority of women (88.5%) were housewives. Mostly urban women (71.5%) were using district hospital as compared to rural women (27.5%). Gurgaon being industrial city, majority (67.5%) were migrants and 32.5% women were original from Haryana. 67.5% women were in nuclear type family and 32.5% were in joint family.

##### *Knowledge about various Aspects of HIV/AIDS*

In the study 82% women heard about HIV/AIDS. However, major source of information was media like television (46.95%), radio (41.46%) and magazine, books, newspaper (20.73%) as described in [table 2](#).

The [table 2](#) describes that contribution of health staff has been low; doctor (6.71%), ANM/Nursing staffs (2.44%), ASHA (9.15%), friends/relatives (4.88%), teachers (4.27%), social worker (0.61%) and Anganwadi worker (0.61%) except ICTC counselor (93.25%). The information about mode of transmission is presented in the [table 3](#) given below.

In comparison to knowledge about other modes, HIV transmission from mother to fetus during Antenatal period and during normal delivery was very low (6.7%).The awareness about prevention was also analyzed and presented in [table 4](#). Only 46% ANC women responded that HIV transmission to fetus can be prevented.

Percentage of women who responded that HIV cannot be cured or were uncertainty was quite high (87%) shows the unacceptable level of awareness.

#### *Early ANC Registration of Pregnant Women*

Timely ANC registration is must for universal coverage of HIV counselling and testing of ANC Women. [Table 5](#) shows that 43% women registered in first trimester, 32% in second trimester, 26% in third trimester. The table shows that about 58% women registered after first trimester due to various reasons like due to lack of family support (71%), lack of awareness for getting registered in first trimester (68%), due to lack of awareness of facilities available (36%), due to lack of money (28%). 20% due to late detection of pregnancy (20%).

### Discussion

It was found that at the ANC Clinic, a women has to give blood sample separately for HIV screening and ANC tests in two different labs located on same floor of the hospital defeating the very concept of convergence of services. The factors like high percentage (88.5%) of housewives, higher young age group 20-29 years (85%), high level of illiteracy (around one fifth) and large migrant population (67.5%) may be reasons for low utilization of PPTCT services. ANC providers cited heavy work load for not being able to contribute to awareness and counseling for HIV to ANC women. The less involvement of regular health staff (Doctors & ANMs-9.2%) and ASHA (7%) in communicating with patients regarding PPTCT was also a constraint. During observation, it was found that though there were adequate IEC material displayed at ICTC but not in the ANC or rest of OPD Blocks.

The gap in number of women found HIV positive and number of women who further availed services for delivery or Caesarean section shows that delivery services at Hospital may not be friendly/convenient to HIV positive women. Also, staff at ANC Clinic of the Hospital is not fully trained, equipped and ready to provide appropriate services to HIV positive women. Interview with ICTC counselors and other staff revealed that confidentiality in maternity ward was the most important reason of low hospital delivery of HIV positive women. Also, there was no incentive to staff and inadequate protection from HIV risk to conduct delivery of HIV positive women.

ICTC counselors counseled about 60-80 clients daily; of this about 25-40 women were referred from ANC clinic to ICTC. They get about 8- 10 minutes per woman to record details and do counseling which is not adequate and thus affect quality of counseling. ICTC Counselors

informally sensitized ASHA worker to educate the ANC women while accompanying them to District Hospital. It is found that only 9% women were given counseling by ASHAs even in absence of specific instructions to them. It was found that ASHA had basic knowledge about HIV prevention during pregnancy, therefore can be effective community counsellor.

Among ANC women interviewed, only 6% were aware with the facts about antenatal and partum transmission of HIV. About 85% percentage of women who had heard about HIV/ AIDS opined that breast feeding can cause to HIV transmission from mother to new born but only 46% knew that something can be done to reduce transmission during pregnancy, labor or during breast feeding. This necessitates involvement of MOs, ANMs etc at the CHC, PHC levels for at least raising awareness about PPTCT and related activities.

The delayed ANC registration (about 60%) is the missed opportunity to timely test women for HIV so as to do necessary intervention to prevent transmission in case they are found positive. It was also found that majority of women registered late for ANC due to lack of family support (71.3%) and lack of awareness of getting registered in first trimester (68.69%). This necessitates educating husbands also for the early ANC registration.

It emerged from the data that 98% of ANC women had HIV got the test done at District hospital and hardly such facility is available at CHC/PHC level. Since 27.5 % women attending ANC clinic at district Hospital were from rural areas, they may be easily served at the PHC/CHC level. Government need to establish ICTC at 24X7 PHCs and all ANMs may also be trained in rapid test of HIV screening. Though 90% women were aware of the HIV test result but only 6% got post-test counseling. Women whose husbands were in occupation prone to risk behavior need to be given post-test counseling inspite of being negative. Out of 200 women, 97(<50%) came with husbands, only 14(15%) were counseled and 9(10%) were tested. Therefore, special IEC activities for male participation in PPTCT is required. As per the DLHS-III data, institutional delivery in Haryana is about 47% out of which 53.8% is conducted by private sector, indicating larger role of private sector in the process of convergence (15).

Doctors at ANC clinic were not aware about NACO guidelines for breastfeeding and MTP, delivery of HIV positive women etc. Nurses at maternity ward gave Nevirapine to women during delivery and assisted in Caesarean section but not doing any counseling to women about HIV testing, Safe sex, Breast feeding in absence of specific guidelines. Matron had adequate

knowledge but were not involved in any PPTCT activities. Ward attendants and Pharmacists also had no direct role in convergence of two services and they were never sensitized. This is worth to mention that 2 ICTC lab technicians and 2 Blood Bank technicians appointed by HACS in the District Hospital had common duty roster leading to convergence of their activities.

The Head of Gynecology Department is also District HIV Nodal Officer. This ensured good coordination in ICTC and RCH activities. The Blood bank In-charge was given the responsibility of trainings for hospital staff in HIV/AIDS awareness on behalf of HACS but no structured training activity followed.

## Conclusion

Convergence at District Hospital Gurgaon is happening as minimal functional necessity. However, convergence need to beat much wider scale as per the NACO in the framework of guidelines for policy, planning, implementation, training, budgeting, M&E, reporting etc involving government and private sector hospitals.

## Recommendation

State government may issue operational guidelines for convergence of services and upload on web site. Training of government and private hospital staff for delivery and follow-up of HIV positive mother and baby pair is highly desired. All ASHA, ANM, AWW workers should be oriented to educate ANC women about PPTCT during VHNDs. Special incentives may be on the pattern of Karnataka State to Doctors and other paramedical staff in Government and Accredited Private Hospitals for Caesarean section/ Normal delivery may be considered.

## Authors Contribution

Preparation of proposal by PB, finalization of proposal by VKT, data collection by PB, data analysis by PB and SR, Preparation of first draft by PB and KSN, review of literature and discussion by LKP, final manuscript prepared by VKT and SR.

## Acknowledgement

Authors are grateful to Government of Haryana for allowing us to conduct the study in the district. The support received from Chief Medical Officer and I/C PPTCT Unit is acknowledged with thanks.

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## Tables

TABLE NO. 1 PERFORMANCE INDICATORS ABOUT PPTCT SERVICES AT DISTRICT HOSPITAL GURGAON

Sr No	Service Provided	2011	2010
1	Total number of ANC registered	7002	7493
2	Number of deliveries conducted	4950	4292
3	No of Pregnant women provide pretest counseling	6262(89.43%)	5770 (77% )
4	Number of pregnant mothers advised for HIV test	6262	5770
5	Number of women got tested	6145(87.76%)	5625(75% )
6	Number of women receiving post-test counseling	6125	5624
7	Number of pregnant women detected HIV+	12 ( 0.195% )	10 (0.17% )
8	Number of positive women whose partners were tested	12	10
9	Number of partners found positive	6	4
10	Number of HIV positive women delivered Normally.	1	3
11	Number of HIV positive women who underwent caesarean section	2	0
12	Number of babies receiving Nevirapine prophylaxis	3	3
13	Number of HIV+ mothers received Nevirapine prophylaxis	3	3

TABLE NO. 2 DISTRIBUTION OF WOMEN ACCORDING TO AWARENESS AND SOURCE OF INFORMATION ABOUT HIV/AIDS

Heard about HIV/AIDS	Frequency(n=200)	Percentage (%)
Yes	164	82
No	36	18
<b>Source of information on HIV*</b>	<b>n=164</b>	
Radio	68	41.46
Television/Cinema	77	46.95
Written/newspaper/books	34	20.73
ASHA	15	9.15
ANM/Nursing staff	4	2.44
AWW	1	0.61
Doctors	11	6.71
ICTC-C	152	93.25
Social Workers	1	0.61
Friends/relatives	8	4.88
Teachers	7	4.27

TABLE NO. 3 AWARENESS ABOUT MODE OF TRANSMISSION AMONG ANC WOMEN (N=164)

S. No.	Awareness about mode of transmission*	Frequency (n=200)	Percentage (%)
1	By Hand shaking/holding	146	89.02
2	By sharing food	145	88.41%
3	Sharing toilet	150	91.46
4	Unsafe blood transfusion	136	82.9%
5	Unsafe sex relations	138	84.15
6	Breast feeding	133	81.10
7	ANC period/Partum transmission	11	6.71
8	Combined Vertical transmission	76	46.34

TABLE NO. 4 AWARENESS AMONG ANC WOMEN ABOUT PREVENTION AND CURE OF HIV/AIDS

Prevention and cure of HIV/AIDS	Frequency (n=200)	(%)
Can vertical transmission to fetus be prevented?		
Yes	76	46
Can HIV be cured?		
Yes	26	13
No	110	55
Don't Know	64	32

TABLE NO. 5 TIME OF ANC REGISTRATION AND REASONS FOR DELAY

Months in which registration made	Frequency(n=200)	(%)
First 3 months	85	42.5
4-6 months	64	32.0

7-9 months	51	25.5
<b>Causes of delayed registration*</b>	<b>n=115</b>	<b>Percentage (%)</b>
Due to late detection of Pregnancy	23	20
Lack of awareness of facilities available	42	36.5
Lack of awareness of getting registered in first trimester	79	68.7
Lack of money	33	28.7
Lack of family support	82	71.3

### First Announcement

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