ABSTRACT

**Introduction:** Prevention of parent-to-child transmission (PPTCT) services is an integral part of National AIDS Control Programme and their critical appraisal is necessary for improving quality care. This retrospective study was conducted to evaluate the performance of PPTCT services in Regional Institute of Medical Sciences, Imphal, Manipur during 2003 - 2016 and identify gaps in service delivery for making suitable recommendations. **Methods:** Data were collected, validated and evaluated from records at Regional Institute of Medical Sciences, Imphal, Manipur retrospectively. It was analysed with reference to that available for India as a whole and abroad. **Results:** The proportion of antenatal women tested has increased from 2003-2016 except for 2008 where the percentage decreased. Proportions of counselled cases also showed the same trend except for a decreased trend in 2004 and 2008. HIV positivity rates among those tested was 0.48%. Proportion of mother-baby pairs receiving nevirapine prophylaxis was almost 100%. **Interpretation & Conclusions:** Gaps were identified at each step of service delivery for which capacity building, improvement of infrastructure including laboratory services and ensuring emergency labour room testing were imperative. Outsourcing follow up services to other community based organizations may also be considered.

**KEYWORDS:** HIV, Prevention of parent to child transmission, National Aids Control Organization.

INTRODUCTION

Human immunodeficiency virus (HIV)/Acquired Immuno Deficiency Syndrome (AIDS) was the sixth leading cause of death worldwide in 2012 and is a global public health challenge. Global HIV statistics 2013 reported an estimated 35 million people living with HIV and around 2.1 million newly infected patients of HIV with 1.5 million deaths due to AIDS-related illnesses.[1, 2] India with a very high burden of HIV infection is ranked third in the world in terms of people living with HIV/AIDS (PLHA).[3] In 2011, there were a total of 20.9 lakh PLHA patients in India out of which high prevalence states (Andhra Pradesh, Karnataka, Tamil Nadu and Maharashtra) accounts for 53% of the HIV infected population.[4]

The major issue in HIV transmission in India is Mother to child transmission via vertical route. HIV prevalence among antenatal women in India is reported from 0.1 to 1% by different state authorities in various sentinel surveillance surveys during the last five years.[5-8] Currently the top priority of National AIDS Control Programme (NACP) Phase III (2007—2012) is to stop mother to child transmission of HIV and hence stopping and preventing the impending HIV epidemic in India. This is in consideration of high prevalence rate of HIV infection among antenatal women.[9] The success of short course ziduvudine and single dose clinical trials of nevirapine as simple, cost effective intervention, are the main reason behind prevention of mother to child transmission (PMTCT) approach.[10] The percentage of HIV infected antenatal women from low and middle income countries receiving at least some anti retroviral drugs have increased from 35% in 2007 to 45% in 2008.[11]

In India, there is a significant role of father in care of the mother and children and transmission of HIV.[12-13] The Reproductive and Child Health (RCH) services have incorporated the effective package of PPTCT (Prevention of Parent to Child Transmission) services considering the role of both parents in transmission of HIV.[14] During 2007-08, voluntary counselling and training centres (VCTC) were termed as integrated counselling and testing centres (ICTC) under the NACP Phase III. ICTC ante natal care units were established at the medical college and district hospital level to provide PPTCT services to the antenatal women due to huge load and were separate from the ICTC for general public. The PPTCT essential package involves routine...
“Group/Individual Counseling” and testing of all pregnant women attending ANC, “ANC centric” to “Family centric” approach, provide ART to all HIV positive: tenofovir+lamivudine+efavirenz, institutional delivery, provision of care for sexually transmitted infection/respiratory tract infection/opportunistic infections, nutrition counselling & psychosocial support. Antiretroviral prophylaxis to infants from birth to 6 weeks. As an integrated function of ICTC for general public PPTCT services are delivered in state general and rural hospital at subdivisional level. In April December 2009, 44 lakh pregnant women were tested for HIV under PPTCT program of which 0.34% were found to be HIV positive and were given single dose nevirapine prophylaxis at the time of labour along with the newborn within 72 hours of delivery constituting 9398 mother baby pair who received nevirapine prophylaxis.

Manipur with 1.4% HIV prevalence rate among antenatal clinic attending pregnant women is among the six high prevalence states in India (Sentinel Surveillance 2006). Manipur contributes nearly 8% of total HIV positive patients of India with hardly 0.2% of population. Among the general population in the state, 40000 are estimated HIV positive cases. However with the ongoing successful intervention projects HIV prevalence has declined from 1998 onwards with a sero-prevalence rate of 72.78%,66.02%, 56%, 39.6%, 30.7%, 21%, 24.1% and 19.8% in 1998,2000, 2001, 2002, 2003, 2004, 2005 and 2006 respectively. The project target was to bring down the rate below 5% by 2008 but still it is the highest in the world.

The present study was conducted to evaluate the performance of PPTCT program running at Regional Institute of Medical Sciences, Imphal, Manipur, India.

MATERIAL AND METHOD

A retrospective analysis of the data on the utilisation of Integrated Counselling and Training Centre (ICTC) services by pregnant women at a tertiary care hospital in Manipur, India was done from January 2003 to June 2016. Pre-test counselling, HIV testing and post-test counselling was done by the trained staff of an ICTC centre as per National AIDS Control Organisation (NACO) guidelines. Anti-retroviral prophylaxis in the form of single dose oral Nevirapine (200mg) was given to seropositive women during active labour up to January 2014 and multidrug ART (TDF + 3TC + EFV) thereafter. Antiretroviral prophylaxis with syrup Nevirapine was administered to newborn babies as per NACO guidelines. Analysis of the demographic profile of seropositive women was done.

1. No. of women attending ANC clinic: All new antenatal cases registered for the first time at the PPTCT clinic at our institution during any time of antenatal period.
2. No. of women counseled at ICTC: Out of these all those patients that were provided counselling on HIV testing before application of the actual test.
3. No. of women accepting HIV testing: Out of the newly registered ANC, those who were tested for HIV.
4. No. of women tested seropositive: Out of women accepting HIV testing, those who were found to be positive.
5. No. of mother and baby pairs receiving anti-retroviral prophylaxis: HIV positive mothers along with their babies who received single dose nevirapine as prophylaxis.

The data was tabulated and analysed for each outcome variable.

A cross-sectional study was conducted at the central regional institute of North east India in Imphal, Manipur. The study was conducted retrospectively by analysing the records maintained in the department of Obstetrics and Gynaecology from 2003-2016 and data was collected as per the performance indicators of National AIDS Control Organization (NACO).

RESULTS

Overall during the study period the total number of women attending the ANC were 160,166 out of which the number of women counselled at ICTC were 115,070 (71.84%). Out of those counselled, 113536 (98.67%) women accepted HIV testing which account for 70.88% of ANC attending women. Out of these total no of women found to be HIV positive were found to be 539 amounting to 0.47% HIV sero-prevalence.

A total of 428 HIV positive deliveries took place during the whole study period and 423 (98.83%) mother baby pairs were given antiviral prophylaxis.
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<tbody>
<tr>
<td>New ANC registered</td>
<td>9860</td>
<td>13703</td>
<td>13864</td>
<td>13181</td>
<td>14382</td>
<td>17053</td>
<td>13425</td>
<td>11438</td>
<td>11620</td>
<td>10552</td>
<td>10202</td>
<td>8704</td>
<td>8012</td>
<td>4170</td>
<td>160166</td>
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<td>ANC Counselling</td>
<td>4369</td>
<td>3163</td>
<td>8119</td>
<td>11300</td>
<td>12547</td>
<td>12540</td>
<td>12264</td>
<td>11438</td>
<td>11620</td>
<td>10169</td>
<td>10202</td>
<td>8704</td>
<td>8012</td>
<td>4170</td>
<td>115070 (71.84%)</td>
</tr>
<tr>
<td>ANC Tested</td>
<td>513</td>
<td>724</td>
<td>3169</td>
<td>10763</td>
<td>11848</td>
<td>11598</td>
<td>12261</td>
<td>11438</td>
<td>11620</td>
<td>10169</td>
<td>10202</td>
<td>8704</td>
<td>8012</td>
<td>4170</td>
<td>113536 (98.67%)</td>
</tr>
<tr>
<td>HIV Positive ANC</td>
<td>8</td>
<td>23</td>
<td>44</td>
<td>96</td>
<td>105</td>
<td>54</td>
<td>43</td>
<td>34</td>
<td>35</td>
<td>28</td>
<td>20</td>
<td>20</td>
<td>21</td>
<td>8</td>
<td>539 (0.47%)</td>
</tr>
<tr>
<td>M &amp; B NVP Prophylaxis</td>
<td>6</td>
<td>13</td>
<td>29</td>
<td>54</td>
<td>53</td>
<td>38</td>
<td>42</td>
<td>29</td>
<td>30</td>
<td>23</td>
<td>30</td>
<td>33</td>
<td>33</td>
<td>15</td>
<td>428 (100%)</td>
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PPTCT program is an integrated step wise approach that starts with the registration of new ANC attending the clinic followed by counselling and testing thereby making every step crucial towards reduction of perinatal transmission of HIV.

The present study was conducted to reveal that over the study period a total of 160166 patients were registered as new ANC. The women coming to clinic increased during the study period till 2008 after which there has been a steady decline in the number of women registered.

Of the total new ANC registered, 115070 (71.84%) ANC were counselled at ICTC. The number of women who
were counselled at ICTC showed a similar trend as the registered ANC. After 2010 almost all women who were registered in the clinic were counselled at ICTC. The rate of counselling was 44.31% in the year 2003 and it increased to 100% in 2010 and has been maintained at the same level since then. A similar finding was reported in a study conducted by Joshi et al[17] with a 57.5% pretest counselling rate whereas Mohite et al[18] reported a pretest counselling rate of 88.8%. This difference in the counselling rate could be due to effective implementation of the program.

Among the ANC counselled, 113536 (98.67%) patients accepted HIV testing and the trend showed an increase from 11.74% to 100% from 2003 till 2010. A Mandal et al.[19] from West Bengal and RV Mohite et al.[18] from Maharashtra reported a similar trend of rising acceptance of HIV testing. Similar trend was also reported by Kulkarni and Doibale from Nanded, Maharashtra.[20] The rise in HIV testing could be due to higher standard of living, increased literacy rate, awareness of HIV among common population due to efforts by NACO.

The total number of ANC found to be HIV positive during the study period were 539 with an overall HIV seropositivity of 0.47%. The HIV seropositivity in the year 2003 and 2004 was 1.56 and 3.18 respectively and was found to follow a declining trend over the study period. Similar trends were observed in studies conducted by Mohite et al[18] ranging from 2% in 2003 to 0.1% in 2012, Kulkarni and Doibale[20] ranging from 1.5 to 0.5%, Dash et al[21] ranging from 1.5% to 0.6% and Kwatra et al[22] ranging from 3.9 to 0.5%. However few studies have reported a rising trend in both India and abroad. In India, Gupta et al reported a rising trend and in Nigeria, Oladokun et al reported the same.[23-24]

The differences observed could be due to the effective implementation of the policies by the Manipur Government and positive attitude of the health care personnel towards the program and its implementation. Of the total of 428 HIV positive deliveries that took place during the whole study period, 423 (99.83%) mother baby pairs were given antiviral prophylaxis treatment. Apart from a few cases all mother baby pairs were given nevirapine prophylaxis. This finding was in correlation with Mandal et al, Kwatra et al, Dash et al and Mohite et al. However in a study conducted by Subramaniam et al reported that only 68% mother and 75% babies received nevirapine prophylaxis.

CONCLUSION

There has been a declining trend in the HIV positivity rate among the ANC registered in PPTCT at Regional Institute of Medical Sciences, Imphal. The strong cooperation between Public health care authorities, NGOs, government and community has served as a major achievement in reducing the burden of HIV. Gaps were identified at each step of service delivery for which capacity building, improvement of infrastructure including laboratory services and ensuring emergency labour room testing were imperative. Outsourcing follow up services to other community based organizations may also be considered.

REFERENCES