THE OUTCOMES OF HUMAN IMMUNODEFICIENCY VIRUS OF EXPOSED BABIES AT THE WELL BABY CLINIC-PORT MORESBY GENERAL HOSPITAL FROM JANUARY TO JUNE 2016.

Presenter: Dr Paul Wari MMed2, Child Health Candidate
Introduction

- Global figures (WHO 2014).
  - More than 2.6 million children under 15 years of age are affected by HIV.
  - Treatment for children has been less than that of adults.

  - Reducing prevalence rate from 1.21% to 1%. (Generalised)
  - Paediatrics HIV babies on treatment is less than two thousand cases in PNG.

- PMGH Paediatrics HIV services have been operating since the early 2000’s.

- PMGH WBC opened in 2009 under CHAI programme who left in 2016.

- Where are We?
AIM

To determine the outcomes of children exposed to HIV in the Prevention of Parent To Child Transmission Programme at the Well baby Clinic, PMGH.
1. PPTCT PROCESS. (ANC)

- Opt In HIV counselling and testing at the PMGH PPTCT Antenatal Clinic.
- Confirmatory testing.
- PPTCT enrolment.
- Couples counselling.
- Case management and one stop treatment for the whole family.
Labour and Delivery:

- Antiretroviral Therapy given – Nevirapine stat dose
- Hepatitis B and BCG
- Zidovudine for 6 weeks.
PAEDIATRICS FOLLOW UP:

- Dried blood spot (DBS) collection #1 – 6-8 weeks of age.
- Septrin prophylaxis started at 6 weeks of age.
- DBS #2 – Collected 2 months post breast-feeding cessation.
- Immunisation.
- Monthly follow ups.
- Final RDT at 18 months of age prior to discharge.
PPTCT
Tools.
Results Turn-Around-Time

Sample Collection

ART/PMTCT centre

GOAL: 2 Weeks Turnaround time to receive of results

Transport samples to CPHL Lab

1 day

< 1 day
Drying

< 5 days
Accumulation of DBS

<5 days
PCR reception and testing at CPHL lab

< 1 day

Results returned to site
2. **Study Duration.**

- Descriptive study on PPTCT babies from January to June 2016 and followed up over 18 month period at the WBC, PMGH, NCD, PNG.

3. **Data Collection.**

- Case files
- Clinic Books
- Excel spread sheet.

4. **Inclusion criteria.**

- Babies born to booked mothers.
- PCR DBS done at 6 weeks of age.
- DBS Two done post cessation of breast feeding.
- RDT HIV test at 18 months.
5. **Exclusion Criteria**

- Transferred out
- Unbooked mothers.

6. **Analysis of data.**

- Windows Excel.
- SPSS (Final Write up)

7. **Ethical clearance.**

PMGH Hospital Administration, NCD PAC Secretariat and UPNG SMHS.

8. **Financial implications.** – Nil.
# Results: Demographics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total analyzed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total analyzed</td>
<td>135</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>65</td>
</tr>
<tr>
<td>Females</td>
<td>70</td>
</tr>
<tr>
<td><strong>Length of follow up (months)</strong></td>
<td>18</td>
</tr>
<tr>
<td><strong>Education Status. (Mothers).</strong></td>
<td></td>
</tr>
<tr>
<td>No education</td>
<td>20%</td>
</tr>
<tr>
<td>Primary education</td>
<td>70%</td>
</tr>
<tr>
<td>High school.</td>
<td>10%</td>
</tr>
<tr>
<td><strong>Population</strong></td>
<td></td>
</tr>
<tr>
<td>NCD URBAN</td>
<td>80%</td>
</tr>
<tr>
<td>CENTRAL</td>
<td>20%</td>
</tr>
<tr>
<td>Variable (n = 135 )</td>
<td></td>
</tr>
<tr>
<td>--------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Nevirapine (NVP).</td>
<td>118</td>
</tr>
<tr>
<td>Zidovudine (AZT) x6/52</td>
<td>135</td>
</tr>
<tr>
<td>Feeding choices</td>
<td></td>
</tr>
<tr>
<td>Exclusive breast feeding</td>
<td>58</td>
</tr>
<tr>
<td>Formula feeds</td>
<td>25</td>
</tr>
<tr>
<td>Mixed feeding</td>
<td>40</td>
</tr>
<tr>
<td>Unknown</td>
<td>12</td>
</tr>
<tr>
<td>Variable (N=135)</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>---</td>
</tr>
<tr>
<td>Isoniazide Prophylactic Therapy (IPT).</td>
<td>Done</td>
</tr>
<tr>
<td>Mum on HAART prior to pregnancy.</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>No</td>
</tr>
<tr>
<td>Dad on HAART.</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>No</td>
</tr>
</tbody>
</table>
### Results - Early Infant Diagnosis and RDT HIV

<table>
<thead>
<tr>
<th></th>
<th>Results (n=135)</th>
<th>6-8 Weeks (DBS#1)</th>
<th>6-8 months (DBS#2)</th>
<th>18 months.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DBS - PCR</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive</td>
<td>14 (10%)</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td>85 (63%)</td>
<td>45 (33%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not done</td>
<td>36 (27%)</td>
<td>90 (67%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>RDT HIV</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive</td>
<td></td>
<td></td>
<td>14 (10%)</td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td>30 (22%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not done</td>
<td>91 (68%)</td>
<td></td>
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</tr>
</tbody>
</table>

- DBS: Dried Blood Spot
- PCR: Polymerase Chain Reaction
- RDT: Rapid Diagnostic Test

Prevalence: 10.3%
<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discharged</td>
<td>30</td>
<td>22%</td>
</tr>
<tr>
<td>Positive in care.</td>
<td>14</td>
<td>10%</td>
</tr>
<tr>
<td>LTFU</td>
<td>85</td>
<td>63%</td>
</tr>
<tr>
<td>Died</td>
<td>6</td>
<td>5%</td>
</tr>
</tbody>
</table>
DISCUSSION.

1. Education
   ✓ 90% Had less than a primary school education.
   ✓ Vulnerable population.

2. Feeding Options
   ➢ EBF 58%
   ➢ Cheaper for mothers
Effect of Maternal ART on Breast Milk Transmission


2318 infants not infected after 14 weeks of NVP prophylaxis during breast feeding

130 infected during the subsequent period of breast feeding

Mothers CD4 <250
Not on ART
52 infections in 494.4 person-years of breast feeding

Mothers CD4 <250
On ART
6 infections in 288.1 person-years of breast feeding

Mothers CD4 >250
Not eligible for ART
72 infections in 1067.9 person-years of breast feeding

Rate = 10.5
82% reduction!

Rate = 2.1

Rate = 3.7
Discussion

3. Pending DBS and RDT Results
   - EID #1 – 27 %, EID #2 -67% and RDT HIV – 68 %

REASONS:
- DBS machine breakdown
- Manpower employed by donor partners
- Lack of Reagents and strips
- Lack of clinical manpower in the WBC.
Discussion

4. Lost to Follow Up
   - 63 % rate.
   - Inclusive of all that were not able to have the final RDT HIV test done.

   - High rate compared to what Kelly – Hanku et al (2015), LTFU rate of 38%, found in their IMR study of the programmes in Goroka and PMGH in 2015.
LIMITATIONS

1. Short study and was not able to capture all the ANC data.
2. Clinical data not available
3. Need to capture the Unbooked mothers.
Recommendation

- NDOH

- Permanent PPTCT team appointed in FHS/HIV Units.
- Implement National PPTCT Guidelines.
- Roll out Nationwide PPTCT programme.
- Employ more skilled staff at the EID/PCR Laboratory in CPHL PMGH.
- Reopen the EID Laboratory in EHPHA, Goroka.
Recommendation.

- PMGH
  - Permanent PPTCT SMO
  - Address LTFU through networking with NGO’s
  - Increase staffing capacity
  - Stand alone facility like Heduru to increase couples counselling and testing.
  - Point of Care testing.
Acknowledgement

- UPNG SMHS—Professors Vince and Tefuarani
- PMGH SMOs and Dr K.Sobi.
- Dr G.Vali
- Sr V. Kalebe and PMGH WBC Team and Clients
- My PMGH Registrar Coleagues
- Late Dr Wendy Pamah
- My Family
- Proffessor Trevor Duke.
- PNG Paediatricians.
References

• UNAIDS 2014.
• NDOH HIV Surveillance Unit .
• CHAI PNG
• Andy et al. – Couples counselling in Goroka Hospital. (2013)
• PNGIMR.