

TITLE

**Prevalence of HIV on HIV exposed Babies under
18 months on Dry Blood Spot (DBS) Testing at
Port Moresby General Hospital between 2015-
2017**

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Presentation Outline

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Introduction

Background

- Human Immunodeficiency Virus (HIV) is the virus that cause Acquired Immuno-deficiency Syndrome (AIDS).
- HIV is transmitted through bloods, seminal & vaginal fluid, tattoos, needles etc.
- It is also transmitted to children from Parents during pregnancy, delivery and postnatal/breast feeding period(J.Vuvu,2018)

Background

- Studies showed that without HIV parents treatment around **15-30% of babies** born to HIV positive women were infected with HIV, during pregnancy , delivery (**5-20% via breastfeeding**).
- **30-45%** if the duration of breast feeding is 18-24months, **25-35% with 6months** of B/feeding & **20%** with replacement feeding

Introduction- Glance of Statistics at Global & PNG

- UNAIDS evidences suggest that prevalence of HIV in 2016 at the global rate about total of 78 million people were become infected
- 36.7 million people living with HIV(on Rxment) and 1.8 million are children
- 35 million people died-AIDS related illness
- 21,198 total people in PNG infected with HIV in 2015 and 1394 people died
- 1174 –children infected & 230 of these death(N,Dala,2016)

Port Moresby General Hospital

- The PMGH Children's HIV clinic consists of approximately 2300 children for HIV care below 18years.
- They had been registered from 2007 to 2017.
- There were 530 (0.34%) children tested to be positive HIV and commenced on ART for life whereas,
- 538 (0.22%) babies under 18months were tested and confirmed negative from HIV,
- 185 (0.08%) deaths
- and rest of the 1047 (.46%) children were under HIV care (G. Vali,2018).

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Case Definition

- According to the WHO recommendation in Paediatric HIV testing Algorithm, 3 HIV blood testes normally done(x2 DBS and Final Antibody at 18months of age).
- All three test results negative were considered Negative and second DBS or Final antibody positive were treated for AIDS/HIV.
- The WHO recommended intervention programs as Antenatal mother is tested HIV positive commenced (ART) to prevent transmission during pregnancy, **delivery & breastfeeding**

Aim & Objectives

The aim is to see the prevalence of HIV among HIV Exposed babies under 18 months on Dry Blood Spots DBS test and Final Antibody HIV confirmatory Test

Objectives:

- Determine Prevalence of HIV on first (1st) & 2nd DBS and Antibody testing.
- Assess exposed infants mothers who introduced complementary (first diet) feeding before 6/12 of age,

Hypothesis

HIV exposed infants mothers who introduced complementary feeding to their infants before and at 6months were at higher risk of developing HIV.

Method

- **Study setting**
- This study was conducted at the children's HIV clinic at PMGH located within Port Moresby, the capital city of PNG. PMGH is the tertiary institution for NCD and Central Province and is referral centre for other provinces.

Methods

Population, and participants

- The PMGH Children's HIV clinic consists of approximately 2300 children for HIV care below 18years.
- They had been registered from 2007 to2017. There were 530 (34%) children tested to be positive HIV and commenced on ART for life
- whereas, 538 (22%) babies under 18months were tested and confirmed negative from HIV,
- 185 (8%) deaths and rest of the 1047 (46%) children were under HIV care.

Study Design

- This study was a quantitative- retrospective study.
- Participants were selected by the author (E Pisoro) from those records of mothers attending the ANC, labour and delivery information from Labour ward and HIV exposed babies' clinic for 3-weeks period between 25th of May to 15th of June, 2018.
- Every 10th baby's chart were randomly selected. They were identified under the criteria below.
- To be eligible, the HIV exposed babies had to be aged below 18 months and their ARV drug with Septrin prophylaxis and infant feeding methods at birth and complimentary feeding at 6months had to be accompanied by their primary care giver.

Case Definition and Inclusion Criteria

- HIV positive cases were exposed babies who have been tested positive on second DBS test or all 3 tests and HIV negative cases were those HIV exposed babies who have been tested negative on all three tests
- A child was excluded from the study if their age could not determine from the information provided.

Variables/Instruments

- The variable used to measure in this study includes; number of HIV positive infants after 1st, 2nd and 3rd testing, demographic characteristics of HIV exposed babies, age, gender,
- maternal educational level, antenatal, delivery & post natal history, including parent's
- and babies ARV and Septrin prophylaxis,, number of HIV exposed babies who are exclusively breast and formula fed at birth
- number of HIV exposed babies who stopped breast feeding at different ages, number of HIV exposed babies introduced complementary feeding at different ages and mixed feeding

Data management, Confidentiality and Analysis

- The babies or parents' names were not recorded in the data base to ensure confidentiality; instead a numerical code was recorded pertaining to each HIV exposed baby's chart.
- The data from the Microsoft Excel spread sheet were then transferred into Epi-Info 7 software for descriptive and statistical analysis.
- The uni-variate analyses were carried out to identify the potential association on exposure and outcome of the variables and HIV testes.
- To compare the variables as exposure and the 1st, 2nd, 3rd Dry Blood Spot and HIV Antibody Confirmatory test as outcome, the paired test of significant was conducted using the cross tabulation of categorical data –

Ethical Approval

- Ethical approval was obtained from the School of Medicine and Health Science Research and Ethics Advisory Committee, University of Papua New Guinea, (Meeting No1/2018, 16 May,2018),
- and ethical approval from the Port Moresby General Hospital the Director of Medical Services, and the permission was received from the AIDS/HIV Director of PNG,

RESULTS

- There were total of 650 (28%) all exposed babies who have been tested for HIV from 2015 to 2017 and have attended the HIV exposed babies clinic at PMGH.
- A total of 65 (10%) babies charts were recruited in the study because of the limited time frame and delay in ethical clearance from PMGH Chief Executive officer and HIV Research Medical Committee.
- Table 1 outlines demographic and social characteristics of the HIV positive mother and their exposed babies. The mean age was 21.8days (Standard deviation (SD)—64.2) and 51% female.

RESULT

- A total of 63 (86%) babies were 0-1 month of age or older, 17 (27%) babies were from Central Province,.
- The total current mean weight was 3.6 kg (SD-1.0), 36 (55%) mothers HIV mothers were educated up to primary level, 64 were positive HIV mothers (95%) and 40 of 59 (92) attended total ANC in PNG, 27 (49%) attended PMGH ANC and 22 (34%) of these men were not on ART.
- The place of delivery chosen by parents were 61 (94%) at PMGH and other health facilities and rest were home deliveries.

Results

Table 1 . Demographic and Infant Feeding characteristics of HIV exposed Babies

Demographic characteristics	Frequency (n)	Percentage (%)
Gender -female	33	(51))
-male	32	(49)
Age in month -0-1month	55	(86)
2-11months	7	(11)
> 12months	3	(3)

Baby's Feeding Methods at Birth

Variables	Frequency	Percentage
	(n)	(%)
i. Exclusive Breast Feeding	52	(81)
ii. Exclusively Cow's milk/ Formula feeding	6	(9)
iii. Mixed Feeding	6	(9)
vi. Others	1	{1}

Infant ARV received at birth (6/52) and Septrin Prophylaxis & Age Breast milk ceased

Variables		Frequency	Percentage
		(n)	(%)
ARV Drug	Yes	55	(87)
	No	10	(23)
Septrin	yes	48	(75)
	No	17	(25)
Baby's age at Breast feeding ceased			
0-6months		15	(23)
7- 11months		37	(57)
More than 12months		13	(20)

Table 3 . shows the prevalence of HIV in HIV exposed Baby's on 1st, 2ndDBS & Final HIV antibody test

Variables	Frequency	Percentage
	(n)	(%)
DBS Test 1 Positive	34	(52)
Negative	31	(48)
DBS Test 2 Positive	49	(78)
Negative	16	(22)
Final HIV Antibody Test Positive	31	(57)
Negative	23	(43)

DISCUSSION

- The study highlights the burden of HIV on HIV exposed babies in PMGH HIV Paediatric Clinic of Papua New Guinea with an overall registration prevalence of **58% on final HIV antibody test, 52% 1st DBS, 78% 2nd DBS and 75% on 3rd DBS test**. The 3rd DBS is the repeated for confirmatory purposes for the previous test. 11 of the babies pending confirmatory test
- The high prevalence of HIV in exposed babies less than 18 months were due to the some mothers demographic characteristic and infant feeding methods prepared by the parents from to birth the age of 6months.
- The high burden of HIV prevalence in HIV exposed baby is consistent with findings on mothers ART adherence from birth to complimentary feeding onset, and second DBS of 78% was the reflection of introducing complementary feeding from exclusive breast feed babies and they are at risk of getting HIV.

Discussion

- The age of above 7-11months babies ceased breast feeding compared with the 3 HIV DBS test result indicate that HIV prevalence was consistent above 50%,
- Although, the ARV drug prophylaxis doesn't stop the transmission of HIV from the breast milk.
- This intervention is most cost effective and can prevent HIV in exposed babies together with mother mothers ART adherence from ANC to the postnatal period.
- However, in our setting, HIV counselling is another factor that impacts ART adherence for 55% of mothers

Conclusion

- The high prevalence of HIV in HIV exposed babies associated with 3 HIV DBS and final antibody test highlights urgent need to control and monitor ART adherence for the parents
- The risk related to the lack of ART adherence from mothers and continue breast feeding with complimentary feeding intervention at age 6months , there was a high chances of HIV transmission to HIV exposed babies at PMGH, Paediatric HIV Clinic when compared with the second DBS test.

Conclusion

- There is a great need for collaborative efforts between midwife and Paediatric HIV nurse Counsellor at ANC to the Paediatric clinic, partners (WHO) and the National department of Health should review the Infant feeding guidelines on transition of breast milk to cows milk during complementary feeding at age of 6months .
- This recommended intervention will reduce the high prevalence of HIV in HIV exposed babies in PMGH, Papua New Guinea.

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ANY QUESTION

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Thankyou..