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POLICY DOCUMENT ON THE

PREVENTION OF MOTHER-TO-CHILD TRANSMISSION OF HIV

IN BARBADOS



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TABLE OF CONTENTS

Acronyms	**1**
Foreword	**2**
Executive Summary	**3**
Background	**5**
— The HIV/AIDS Situation and Response in Barbados	5
— Mother-to-Child Transmission (of HIV)	6
PMTCT Policies	**7**
– Rationale	7
– Mother-to-Child Transmission; The prevention-to-care Continuum (table)	7
– Goal	8
– Objectives	8
Testing for HIV in Pregnancy	**9**
Referral System for HIV Infected Pregnant Women	**11**
Treatment	**13**
Prevention	**15**
References	**17**



ACRONYMS

ABC Abstinence, Be faithful and use Condoms (an HIV prevention model)

AIDS Acquired Immunodeficiency Syndrome

ACTG AIDS Clinical Trial Group

ANC Antenatal Clinic

ART Antiretroviral Therapy

ARV Antiretroviral (drug)

ELISA Enzyme Linked Immunosorbent Assay

HAART Highly Active Antiretroviral Therapy

HIV Human Immunodeficiency Virus

HIV + HIV positive (HIV infected)

HIV - HIV negative (not HIV infected)

LRU Ladymeade Reference Unit

MCH Maternal and Child Health

MTCT Mother-to-Child Transmission (of HIV)

NHAC National HIV/AIDS Commission

PLHIV Persons Living with HIV

PMTCT Prevention of Mother-to-Child Transmission (of HIV)

QEH Queen Elizabeth Hospital

STI Sexually Transmitted Infection

UNAIDS Joint United Nations Programmes on HIV/AIDS

VCT Voluntary Counselling and Testing

VDRL Venereal Disease Research Laboratory test (A blood test for syphilis)

FOREWORD



The statement "Children are our future" has resounding significance in its application to the impact of HIV and AIDS. In 2007, UNAIDS estimated that 420, 000 children under the age of fifteen years were newly infected with HIV worldwide. At the same time, it was also estimated that almost half of the 33 million people worldwide living with HIV were women. Mother-to-Child Transmission (MTCT) is the most significant source of HIV transmission in children.

It therefore behoves that any effective response to the prevention and control of HIV must include a co-ordinated and comprehensive framework to prevent Mother-to-Child Transmission of HIV.

Barbados has made significant achievements in its Prevention of Mother-to-Child Transmission (PMTCT) programme. However in order to achieve Universal Access to PMTCT services more needs to be done. To redress this critical issue, the Ministry responsible for Health is now seeking to capitalise on successes, and to provide an expanded co-ordinated structure to strategically encompass the following components:

- **The Guidelines on Treatment for the Prevention of Mother-to-Child Transmission to strengthen the treatment programme for HIV positive mothers;**

- **The PMTCT Policy to guide the health sector of Barbados in effectively implementing a comprehensive programme for the prevention and control of transmission of HIV from mother to child; and**

- **The development and implementation of a national training curriculum for PMTCT.**

It is anticipated that the PMTCT Policy strategy will create dynamic linkages across the public and private healthcare systems to offer comprehensive and effective PMTCT services for all Barbadians.

It is also envisaged that this comprehensive framework in reducing the transmission of HIV from mother to child, will act as a platform for other efforts in the prevention and control of HIV in Barbados.

The Honourable Mr. Donville O. Inniss, M.P
Minister of Health

EXECUTIVE SUMMARY

The HIV epidemic started in Barbados in 1984. Since then, the Government of Barbados has made significant strides in combating the disease. The Ministry of Health remains cognizant that the epidemic continues to outpace the local response as evidenced by HIV incidence rates that have not abated. The gradual feminization of the epidemic is of particular concern since Mother-to-Child Transmission (MTCT) of HIV is the most significant mode of HIV transmission in the paediatric population, both internationally and in Barbados.

The Ministry of Health is seeking to further strengthen the comprehensive programme for the prevention and control of HIV/AIDS. This is particularly important considering the proposed implementation of activities that are necessary to achieve the goal of Universal Access by 2010.

The Ministry of Health's response to Prevention of Mother-to-Child Transmission (PMTCT) of HIV to date has been a success as it has seen a substantial decline in infants diagnosed with HIV acquired from their mothers. What is also impressive is that approximately 90% of pregnant women receive VCT services for the purposes of PMTCT.

However anecdotal reports suggest that the proportion of pregnant women being tested for HIV has fallen. In spite of the many success of the PMTCT component of the National HIV/AIDS Programme, research reveals that there is a relatively poor uptake of other HIV care services by HIV+ pregnant women and low follow-up rates of their infants.

A RENEWED COMMITMENT TO PMTCT IN BARBADOS IS REQUIRED. THE MINISTRY OF HEALTH SEEKS TO STRENGTHEN PMTCT VIA THREE COMPLIMENTARY COMPONENTS OF THE NATIONAL PMTCT FRAMEWORK:

1. The publication and distribution of Guidelines on ARV therapy for Pregnant women and for PMTCT,
2. The development and implementation of a National training curriculum for PMTCT and
3. The Policy document on PMTCT in Barbados.



The policies for PMTCT seek to harmonize and standardize all current efforts to reduce Mother-to-Child Transmission of HIV in Barbados. **THE OVER-ARCHING GOAL OF THIS NATIONAL POLICY FOR PMTCT IS:** ***to guide the health sector of Barbados in effectively implementing a comprehensive programme for the prevention and control of transmission of HIV from mother to child.***

THE CORE POLICIES ARE SUB-DIVIDED INTO THE FOUR POLICY AREAS:

1. Testing for HIV in Pregnancy
2. Referral system for HIV+ Pregnant women
3. Treatment and
4. Prevention.

THE RESPECTIVE OBJECTIVES OF THE FOUR POLICY AREAS ARE TO:

1. Determine the HIV status of all pregnant women.
2. Ensure that all HIV+ Pregnant women have joint antenatal and postnatal care by an HIV specialist, an obstetrician and a paediatrician for the purposes of PMTCT.
3. Reduce the transmission of HIV from mother to child through the use of ARVs.
4. Reduce the risk of Mother-to-Child Transmission (of HIV) through prevention interventions including prevention of HIV transmission and prevention of unintended pregnancies.

The information provided herein details the strategies that are essential to achieve the aforementioned policy objectives.



BACKGROUND

The HIV/AIDS Situation in Barbados

At the end of 2007 there were 33 million people living with HIV worldwide and just under half of the adults living with HIV are women. In 2007 there were approximately 2.5 million new HIV infections and 2.1 million died of AIDS-related causes.[1] In the Caribbean there were 230 000 persons living with HIV, 17 000 new infections and 11 000 AIDS deaths. AIDS remains one of the leading causes of death among persons aged 25 to 44 years. The estimated adult prevalence rate of HIV in the Caribbean is 1.0%.[1]

3295 persons were diagnosed with HIV disease between the start of the epidemic in 1984 and the end of 2006. Overall far more males have been diagnosed with HIV disease than females. Out of these 3295 diagnosed with HIV, 2032 (62%) have had advanced HIV disease or AIDS. The total amount of persons who have died from HIV-related causes over the same time period is 1297, or 39% of the total of those diagnosed with HIV disease.

At the end of 2006, 1998 persons, or 61% of all those ever diagnosed with HIV, were known to be alive with HIV in Barbados. This figure is less than half of the total amount of persons estimated to be living with HIV in Barbados.2 The adult prevalence rate of HIV is estimated to be 1 - 2%.[1]

The Ministry of Health has made significant achievements in its HIV/AIDS prevention and control efforts since the first case in Barbados, in 1984. In 2001, more than ten years after the start of the epidemic, it became evident that the response continued to be outstripped by the tide of the HIV epidemic as increasing incidence and prevalence rates were seen, particularly amongst young adults.

In 2001 the Government of Barbados renewed its commitment to addressing the growing HIV/AIDS epidemic by means of a ***Comprehensive Programme for the Management, Prevention and Control of HIV/AIDS.*** This saw the substantial investment of human and financial resources accompanied by the highest level of political will. The core coordinating agency of the expanded programme is the National HIV/AIDS Commission which has the responsibility of coordinating the multi-sectoral national programme.

The Ministry of Health continues to play the key role in the prevention, care, treatment and support aspects of the National HIV/AIDS Programme. Medical care and treatment is delivered mainly via the Ladymeade Reference Unit (LRU) which replaced the Counselling Clinic at the QEH. This state-of-the-art facility opened in June 2002 and consists of a multi-disciplinary clinic and laboratory. In keeping with international best practices the clinic provides HAART for persons living with HIV (PLHIV) who meet the criteria for such. The laboratory facilitates the assessment and monitoring of PLHIV by measuring CD4 counts and HIV-1 RNA (Viral Load) levels.

Barbados boasts an internationally acclaimed HIV/AIDS prevention and control programme that has made outstanding achievements from the inception. At present, the goal is to provide **Universal Access**. This entails the scaling-up of the comprehensive HIV prevention, treatment, care and support services for all who are in need of them.



Mother-to-Child Transmission (of HIV)

In 2007 there were 420 000 children under the age of 15 who were newly infected with HIV, globally.[1] Mother-to-Child Transmission of HIV is the most significant source of HIV in the paediatric population.

THE STRATEGIES RECOMMENDED BY THE UNITED NATIONS AGENCIES TO PREVENT MOTHER-TO-CHILD TRANSMISSION OF HIV INCLUDE:

1. Primary prevention of HIV infection in women in general and among future parents,
2. Prevention of unintended pregnancies in HIV-infected women,
3. Prevention of HIV transmission from HIV-infected women to their infants and
4. Providing care and support for parents and families.[3]

The PMTCT programme started in 1995 in Barbados shortly after the results of Paediatric ACTG 076,[4] were published. Long course Zidovudine (AZT) monotherapy was employed which resulted in a near 80% decline in transmission of HIV to infants born to HIV+ mothers from 27.1% to 5.5% .[5] In 2000, a Nevirapine regimen was commenced for PMTCT using a modified HIVNET 012 protocol. This resulted in an 8% transmission rate to infants born to HIV+ mothers.[6]

A recent study on PMTCT in Barbados was conducted over a 5 year period, between 2002 and 2006, and involved HIV+ pregnant women and their infants who were treated with ART. The unpublished results reveal a substantial reduction in HIV-transmission rate to 2.5% compared to historical cohorts when the transmission rate was 27.1% prior to the interventions with ART.[7]

In 2002 HAART became available to all Barbadian citizens free of cost as part of the ***Comprehensive Programme for the Management, Prevention and Control of HIV/AIDS 2001-2006***. HAART is administered, mainly, via the LRU. Utilizing HAART for the purposes of PMTCT reduces HIV transmission from the HIV+ mother to her child to 1-2% .[8]

The proportion of pregnant women in Barbados being tested for HIV increased from 39.9% in 1993 to over 89.7% in 2004.[9] As the national program aims to achieve universal access the goal is to get all women tested for HIV.

Despite the perceived easy accessibility of HIV care and treatment services in Barbados, a recent study conducted by Babb and St. John (2006) revealed a relatively poor continuing attendance of pregnant HIV+ women to access these services at the LRU. In addition to this some infants exposed to HIV are not followed up as intended at the paediatric clinic.[10] From that study it was concluded that more intensive efforts were required to improve the level of attendance of HIV infected pregnant women to the LRU.

In 2005, The Caribbean HIV/AIDS Regional Training (CHART) network initiated the evaluation of the existing PMTCT programme with a view to improving PMTCT services throughout the region and bringing them to international standards. Treatment guidelines and protocols for PMTCT in Barbados were adopted in 2006.



THE PMTCT POLICIES

RATIONALE

Although there have been considerable achievements in PMTCT in Barbados from the start of the epidemic, there has been up until this point, a lack of guidelines governing PMTCT efforts in the public and private health care sectors of Barbados.

It is imperative that all efforts to reduce MTCT in Barbados are harmonized and standardized. The Ministry of Health saw the need to capitalize on existing strengths, build on successes and adequately address deficiencies. To accomplish this, the **Barbados Treatment Guidelines for the Prevention of Mother-to-Child Transmission (of HIV)** were drafted and this is complimented by the national policy on PMTCT. This document articulates policies with comprehensive strategies for PMTCT that span the continuum of prevention-to-care as illustrated in the following table:

MOTHER-TO-CHILD TRANSMISSION:
THE PREVENTION-TO-CARE CONTINIUM

PRIMARY PREVENTION OF HIV	PREVENTION OF UNINTENDED PREGNANCIES IN HIV+ WOMEN	INTERVENTIONS FOR PREVENTION OF TRANSMISSION OF HIV FROM MOTHER-TO-CHILD	CARE AND SUPPORT FOR PARENTS AND FAMILIES
• Promotion of safe sexual behaviour by: - Promotion of the ABC approach - Behaviour Change Communication. • Prevention and treatment of STIs. • HIV testing.	• Offering safe and effective family planning to HIV+ women	• Comprehensive MCH services. • HIV testing • ARV prophylaxis. • Counselling and support for safe infant feeding. • Optimal obstetric practices.	• Postpartum care for mothers (including family planning). • Follow up care of infants. • Social support for those affected by HIV: - families - communities - orphans and vulnerable children.

Divided into four strategic elements, the continuum encompasses an array of interventions which together will provide a more comprehensive approach to addressing the issues related to PMTCT in Barbados. The emphasis on each element may change over time and there is the possibility of the introduction of new elements or interventions. The policy document will therefore require periodic review and must be regarded as a dynamic manuscript.

THE OVERALL GOAL OF THE NATIONAL POLICY ON PMTCT IS: ***to guide the health sector of Barbados in effectively implementing a comprehensive programme for the prevention and control of transmission of HIV from mother to child.***

THE OVERARCHING OBJECTIVES OF THIS POLICY ADDRESS THE ELEMENTS IN THE ABOVE TABLE AND SERVE TO STRENGTHEN SERVICE DELIVERY IN THE FOLLOWING AREAS:

5. Testing for HIV in Pregnancy,
6. Referral System for HIV+ Pregnant Women,
7. Treatment and
8. Prevention.



1. TESTING FOR HIV IN PREGNANCY

Policy objective: To determine the HIV status of all pregnant women.

Strategies:

- **All pregnant women should be offered HIV testing at their antenatal booking and re-offered HIV testing later in pregnancy between 30 – 34 weeks. This second HIV test may be done along with the repeat VDRL test.**
- **All institutions or sites that offer HIV testing services should conform to existing HIV testing confidentiality policies and regulations.**
- **The customary standard of adequate pre- and post- test counselling, after informed consent, in a highly confidential manner in an environment free of stigma and discrimination, is expected.**
- **In the Polyclinics, HIV testing may be done by a nurse or the HIV counsellor at that particular clinic. However, timely acquisition and accurate documentation of the HIV test result in the antenatal notes are the sole responsibility of the nurse overseeing the care of the patient.**
- **In other healthcare settings, whether public or private sector, HIV testing is the responsibility of a trained health care provider. Timely acquisition and accurate documentation of HIV test results in the antenatal notes shall be done by that health care provider.**
- **The Ministry of Health is attempting to expand HIV testing services in Barbados. One means of achieving this is by introducing Provider Initiated Testing and Counselling (PITC) for HIV whereby HIV tests are more routinely offered to patients by healthcare providers. With this approach less emphasis on pre-test counselling is acceptable however informed consent, adequate post-test counselling and confidentiality are always expected.**
- **Pregnant women have the right to refuse testing for HIV. The healthcare system should never discriminate against any pregnant woman who refuses to be tested for HIV.**

1. TESTING FOR HIV IN PREGNANCY

Strategies: (continued)

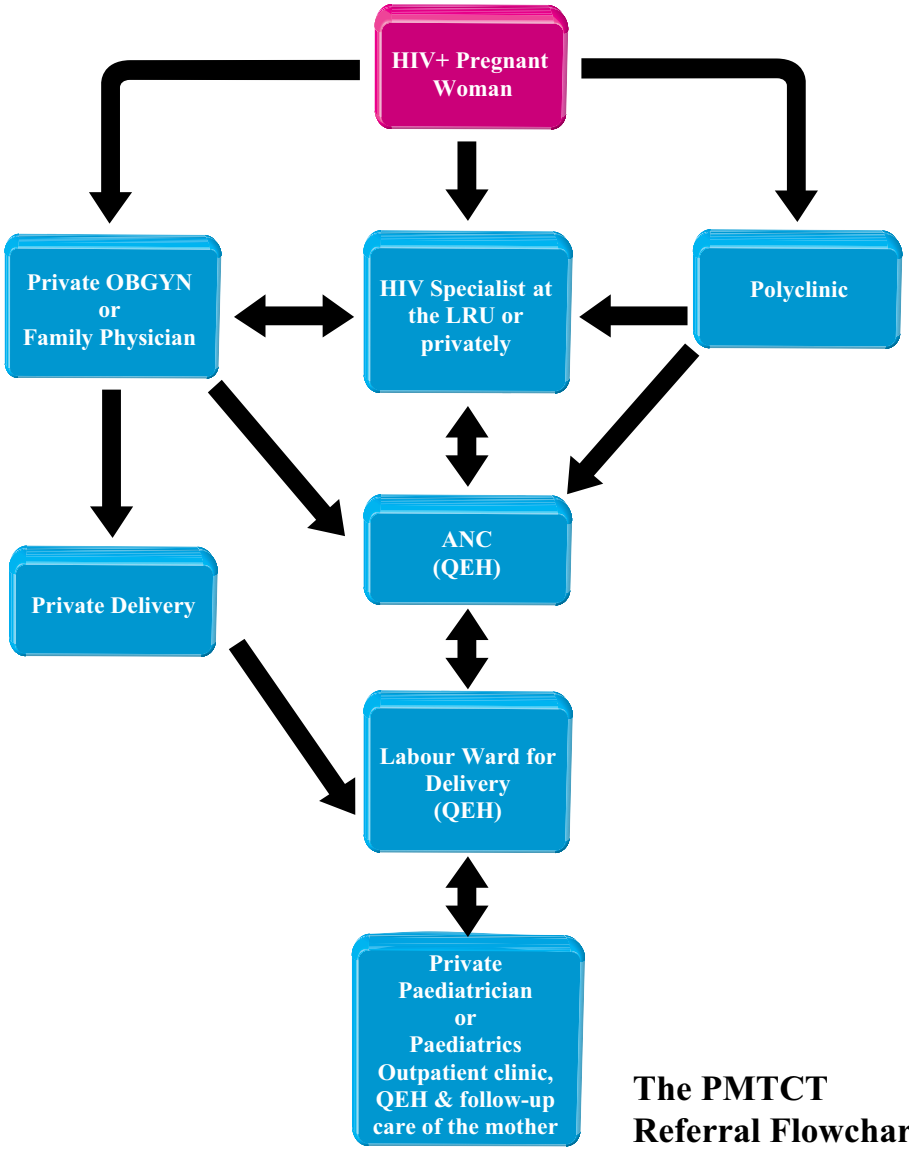
- **Refusal to accept an HIV test by the pregnant woman should be documented in the antenatal notes and the reason for refusal, if given by the patient, should also be documented.**
- **HIV test results should be clearly and accurately documented in the antenatal records of the patients using the current standard coding system:**
  - The HIV result should be written in lower case and the same colour ink as other written entries in the antenatal notes and it should not be highlighted.
- **A rapid test for HIV should be offered to all un-booked women presenting in labour or to those booked women presenting in labour whose recent HIV status is unknown or not documented in their antenatal records.**
- **The results of the rapid test should be followed up immediately by the admitting physician or midwife, documented clearly and accurately in the patient's notes using the standard coding system.**
  - The results of the rapid test should be acted upon appropriately, meaning that a negative test requires no interventions but a positive test requires appropriate interventions according to the **Barbados Treatment Guidelines for the Prevention of Mother-to-Child Transmission (of HIV).**
  - Note: All negative rapid test results are usually considered HIV- while an HIV+ test result, as determined by a rapid test, requires further confirmation in accordance with the HIV testing protocols of the Ministry of Health.



2. REFERRAL SYSTEM FOR HIV+ PREGNANT WOMEN

Policy objective: To ensure that all HIV+ women have joint antenatal and postnatal care by an HIV specialist, an obstetrician and a paediatrician for the purposes of PMTCT.

The following chart illustrates the overall goal of the referral system.



The PMTCT Referral Flowchart

2. REFERRAL SYSTEM FOR HIV+ PREGNANT WOMEN

Strategies:

- **Ideally, all HIV+ pregnant women should be known to the physician, nurses and counsellors at the Antenatal Clinic at the QEH and the LRU.**
- **Whether the woman was previously diagnosed HIV+ or is newly diagnosed HIV+, she should be referred for specialist obstetric care.**
- **All HIV+ pregnant women should be regarded as high risk pregnancies, therefore it is highly recommended that their care be managed by the more senior and experienced Obstetricians, the Consultant in charge or the Senior Registrar, as is customary with other high risk pregnancies.**
- **All HIV+ pregnant women should be referred for specialist care and management of their HIV disease and for the purposes of PMTCT.**
- **If an HIV+ pregnant woman is found to be un-booked when in attendance at the LRU, she should be referred to the ANC at QEH for obstetric care and not to the Polyclinic.**
- **If the HIV+ pregnant woman is not desirous of follow-up care in the public healthcare system, she should be referred to a specialist HIV physician in private pratice along with an Obstetrician and a Paediatrician for the management of HIV infection, pregnancy and for interventions required for PMTCT.**
- **After delivery, the mother should be referred from the post-natal ward to the Senior Health Sister at the relevant Polyclinic for post natal follow up and the LRU or private physician when appropriate.**
- **At any stage, the need for psycho-social evaluation and subsequent interventions may be required. The principal healthcare providers overseeing the care of HIV+ pregnant women are expected to be aware of any psychological or social needs of these women or their families and refer to available services as appropriate. Referrals may be made to the Psychologists at the LRU or the Counsellors or Social workers in the HIV/AIDS Programme.**
- ***At all times unambiguous and effective communication amongst all healthcare providers involved in the care of the HIV+ pregnant woman is expected to ensure that she follows through from one referral to another.***



3. TREATMENT

Policy objective: To reduce the risk of Mother-to-Child Transmission (of HIV) through the use of ARVs.

The medical care of HIV+ pregnant women as it relates to PMTCT is detailed in the current **Barbados Treatment Guidelines for PMTCT (of HIV)** which comprises of scenarios which serve as brief treatment guidelines.

Strategies:

- **All HIV+ pregnant women should be adequately counselled on HIV infection and the potential benefits and risks of antiretroviral therapy.**
- **All HIV+ pregnant women should be offered antiretroviral therapy, whether for prophylaxis or for treatment, to reduce the risk of transmission of HIV to her child.**
- **Provision of treatment should be done in accordance with the *Barbados Treatment Guidelines for the Prevention of Mother-to-Child Transmission (of HIV)*.**
- **All HIV+ pregnant women who residing in Barbados, at the time that they are in need of antenatal care, should receive free ARVs irrespective of their nationality.**
- **All physicians managing HIV+ pregnant women should be familiar with the use of the local treatment guidelines for PMTCT.**
- **As previously stated, the Obstetric care of HIV+ pregnant women is the principal responsibility of the Obstetric Consultant or the Senior Registrar to whom the patient is assigned. This refers to those women receiving antenatal care in the public health care system.**
- **For HIV+ pregnant women who opt to have their obstetric management done privately, it is expected that their Obstetricians consult with specialist HIV physicians regarding the HIV care of that particular patient.**
- **Specialist HIV physicians seeing HIV+ pregnant women should make clear and concise written entries in the antenatal notes of the patient. These entries should contain pertinent information such as recent CD4 and HIV-1 RNA (Viral Load) results and the ARV regimen being utilized.**

3. TREATMENT

Strategies: (continued)

- **Healthcare providers, specifically the physicians and nurses, at the LRU are responsible for the provision and supervision of ARVs for all HIV+ pregnant women receiving medical care at the LRU.**
- **In the context of private care, supervision of ARVs, including adherence is the responsibility of that private healthcare provider, irrespective of where the ARVs were dispensed.**
- **After delivery comprehensive care, support and treatment, including psycho-social support, should be provided to the HIV+ woman and her family.**



4. PREVENTION

Policy objective: To reduce the risk of Mother-to-Child Transmission (of HIV) through prevention interventions (prevention of HIV transmission and prevention of unintended pregnancies).

Prevention interventions for PMTCT should be considered in the context of primary prevention programs targeting the youth, women of child bearing age and their partners. An inter-programmatic and multi-sectoral approach is required. This notion of prevention as it relates to PMTCT includes prevention of unintended pregnancies as part of comprehensive family planning.

Strategies:

- **Ongoing national prevention strategies aimed at preventing women from being infected with HIV or STIs should be employed.**
- **The ABC strategy for prevention of HIV or STIs should always be utilized with specific recommendations appropriate to the individual at hand and their particular circumstance.**
- **Other prevention strategies should be used and these may include combinations of advocacy for safer sex, HIV testing, antiretroviral therapies and other interventions to prevent the baby from acquiring HIV from its mother.**
- **National prevention strategies focusing on preventing men from being infected with HIV or STIs are also important in PMTCT. These strategies should employed.**
- **Women who are HIV+ should be counselled on safer sexual practices and on making informed choices about their reproductive options.**
- **To prevent unintended pregnancies, appropriate birth control methods should be recommended to all women of child bearing age.**

4. PREVENTION

Strategies: (continued)

- **The use of barrier contraception in the form of male and female condoms, to prevent unintended pregnancies and to reduce transmission of HIV and STIs, should be advocated to all women before, during and after pregnancy.**
- ***It is the explicit policy of the Ministry of Health that HIV+ mothers should not breast feed*** **.[11]**
- **The Ministry of Health supports alternative forms of infant feeding.**
- **All HIV+ mothers should be counselled and provided with general information about the advantages and disadvantages of various infant feeding options.**



REFERENCES

1. ***UNAIDS/WHO "AIDS Epidemic Update: December 2007"*** Accessed November 22, 2007 at: http://data.unaids.org/pub/EPISlides/2007/2007_epiupdate_en.pdf

2. Best, A. ***The 2006 Epidemiologic Overview of HIV in Barbados,*** July 2007 (unpublished).

3. ***Prevention of parent-to-child transmission of HIV/AIDS*** Accessed March 21, 2007 at: http://www.unicef.org/aids/index_preventionMTCT.html

4. Connor EM, Sperling R.S, Gelber R. at al. ***Reduction of maternal-infant transmission of human immunodeficiency virus type 1 with zidovudine treatment: pediatric AIDS Clinical trials group Protocol 076.*** N. Engl. J. Med 1994;331: 1173-80.

5. St John MA, Kumar A, Cave CT. ***Reduction in perinatal transmission and mortality from Human Immunodeficiency Virus after intervention with Zidovudine in Barbados.*** Pediatric Infect. Dis. J 2003;22: 422-5

6. St John MA, Kumar A, Carmichael K, Cave C, Abayomi A. ***Efficacy of Nevirapine Administration on the Mother to Child Transmission of HIV using a modified HIVNET 012 regimen.*** W. I. Med J. 2003; 52:19 (suppl. 3).

7. Unpublished data from a study looking at the Prevention of Mother to Child transmission of HIV in Barbados between 2002 and 2006 (St. John et al). Verbal and electronic communication between Dr. Anton Best and Dr. Anne St. John on November 21, 2007.

8. Watts DH. ***Management of human immunodeficiency virus infection in pregnancy*** N. Engl. J. Med 2002;346:24; 1879

9. Kumar A, White H, Carter AO. ***Trends in the uptake of antenatal voluntary counseling and testing for HIV and the HIV prevalence among childbearing women in Barbados, 1993-2004; evidence to gauge the effectiveness of HIV prevention measures.*** (Due for soon publication in WIJM).

10. Babb DA, St. John M.A. ***Attendance and adherence to follow-up visits among HIV Infected pregnant women and their HIV exposed infants in Barbados.*** WIJM 2006; 55 (Suppl. 2): 32

11. ***Government of Barbados National Policy on Breast Feeding.*** Ministry of Health, Government of Barbados April 20, 1999

