

# Testing for hiv for newborn infants health essay

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## **I affirm that the work on this assignment is my original work**

### **Abstract**

This paper examines the positives and negatives of a mandatory testing of every newborn for HIV in Hong Kong. Hope of early treatment to save the lives and decrease the spread of HIV is the main concern for these tests on newborns. This paper also discusses the concerns of whether parental consent needs to be required or if parents may reject such testing. Procedures and treatment types are also discussed and their effect on the healthcare economics of Hong Kong.

## **Testing for HIV for Newborn Infants**

**Mother-to-Child transmission (MTCT) of HIV is a significant route of HIV transmission around the world (Chan, 2011). In order to save the lives of newborns, it is crucial to incorporate a public health program where MTCT of HIV infection may possibly be prevented and the infected mother and/or newborn are sufficiently taken care of by presented and accessible health care organizations (Chan, 2011). Hong Kong currently has a universal antenatal (UAT) HIV testing program used to test whether a mother was infected with HIV and what steps to take in order to reduce the risks of transmitting the virus to their newborn infants (Scientific Committee on AIDS and STI, 2012). Without any intervention, approximately 15 to 30% of these infants would become positive for HIV (Lee & Wong, 2007).**

## **Birth Rate and Statistics of HIV Positive Infants**

In 2011, approximately two and a half million people around the world have been newly infected with the Human Immunodeficiency Virus (HIV) (amfAR, 2012). 330,000 of these newly infected were under the age of 15 (amfAR, 2012). In Asia and the Pacific, nearly 372,000 people were infected bringing the total number to five million (amfAR, 2012). In the East, South, and South-East Asia regions alone, there are approximately 160,000 children younger than 15 years of age who are living with HIV (World Health Organization, 2011). Of these 160,000 children, 39% are receiving antiretroviral therapy (ART), a combination of three or more antiretroviral (ARV) drugs to suppress the HIV virus and stop any further progression of the disease (World Health Organization, n. d.), leaving approximately 113,000 in need of such

treatments (World Health Organization, 2011). Prevention of infecting further newborns is crucial to reducing such statistics of children with HIV. In order to prevent newborns from contracting HIV through their infected mothers, Hong Kong has adopted and began universal antenatal HIV testing (UAT) since September of 2001 (Scientific Committee on AIDS and STI, 2012). In Hong Kong, all pregnant women who attend a public antenatal service (which accounts for approximately 70% of all deliveries) would be presented with voluntary HIV antibody testing, by means of an opt-out methodology (Lee & Wong, 2007). For the case of any HIV positive women, medical and obstetrical care would be offered (Scientific Committee on AIDS and STI, 2012). The total number of eligible woman for testing from September 2001 to December 2004 was 136, 052 (Lee & Wong, 2007). The total number of HIV testing that was performed on the eligible woman was 132, 333, a total of 97. 3% of all woman (Lee & Wong, 2007). During this time period, a total of 160, 878 deliveries were recorded in Hong Kong resulting in a total of 75% of all woman to have had HIV testing before delivery. Due to the acceptance of 97% of those woman eligible for HIV testing; the divergence of the remainder of deliveries are most likely due to late appearances of women (primarily non-residential women), resulting in an inadvertence of standard antenatal testing (Lee & Wong, 2007). Of the 132, 333 women who have accepted HIV testing from September 2001 to December 2004, a total of twenty-eight tested positive for HIV (Lee & Wong, 2007). Approximately 90% of these women received interventions through means of antiretroviral therapy or abortion to help combat mother-to-child transmission (Lee & Wong, 2007). Fifteen of the total twenty-eight HIV positive mothers gave birth, with only one of the cases to be born HIV positive (Lee & Wong, 2007).

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The birth of the HIV positive child is primarily due to the mother being presented late in labor, and not having tested for HIV diagnosis causing her window of opportunity to be closed for prompt intervention through ART or abortion (Lee & Wong, 2007). With assumption that natural vertical transmission rates are at 25%, an approximate six out of seven anticipated HIV infections are avoided. Utilizing universal antenatal HIV testing has been found to not only identify whether or not the woman is infected with HIV early in their pregnancy, but may also reduce the risk of vertical transmission of HIV through use of appropriate treatment, by delivery of caesarean section and avoidance of breast feeding, to their unborn child could be reduced by approximately 67% from 26% of transmission to 8% (Lee & Wong, 2007).

## **Patient Consent**

In order for any antiretroviral therapy or HIV testing to begin, a patient must first understand the mechanics of the trial, the potential gains from the enrollment, the possible adverse side effects, and the right to withdraw at any given moment of the trials and/or testing (Scientific Committee on AIDS and STI, 2011). Mechanisms of all the data monitored are recorded, regular view and explanation of data to the patient, thorough records of all procedures to be kept, and any newly informed consent to be properly attained (Scientific Committee on AIDS and STI, 2011). Any newly pertinent data or opinions that emerge during the testing or therapy procedures in the course of the study must be made known to the patients as rapidly as possible, even if the update provides them a new cause to withdraw from the program (Scientific Committee on AIDS and STI, 2011). Due to the complex

design of the antiretroviral therapy, it is imperative that the numerous factors associated with the patient must be assessed to make sure the treatment is individualized depending on the likelihood of unfavorable drug interactions, any influences that may possibly hinder adherence such as erratic work hours, depression, gastrointestinal disturbance, etc., any pathological factors that could possibly insinuate resistance, and finally any underlying risk factors or diseases that may predispose to adverse conclusions of treatment (Scientific Committee on AIDS and STI, 2011).

Although parents are urged to begin antiretroviral therapy, there are possible outcomes that could lead to paradoxical exacerbation and unique presentations of disease (Scientific Committee on AIDS and STI, 2011). Other adverse effects associated with long term use of antiretroviral therapies include heightened risk of cardiovascular disease, fat redistribution, and metabolic complications (Scientific Committee on AIDS and STI, 2011).

Parents may also seek to decline testing and therapies for fear of payment, outcomes of testing and therapies, and also due to misinterpretations of the risks presumed (Scientific Committee on AIDS and STI, 2011).

**Treatment Options.** Prompt treatment of all newborns younger than twelve months of age who have been recently diagnosed to be HIV positive is recommended (Scientific Committee on AIDS, 2002). Each and every newborn who has presented clinical indications of HIV infection, or suggestion of immune suppression, should be treated despite his age or virus load (Scientific Committee on AIDS, 2002). All infants either born positive for HIV or born to HIV-infected mothers must obtain a six week dosage of Zidovudine (ZDV) either alone or in combination with supplementary antiretroviral drugs such as Lamivudine (3TC) or Nevirapine (NVP) (Chiu, n. d.). Another treatment

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available for infants infected with HIV is to begin PCP Prophylaxis from four weeks to four months of age with CD4+ Lymphocyte Monitoring at three months of age (Scientific Committee on AIDS, 2002). After four months of age, the infant will continue to take PCP Prophylaxis from four months to twelve months of age alongside CD4+ Lymphocyte Monitoring at six, nine, and twelve months of age (Scientific Committee on AIDS, 2002). Before the administration of such antiretroviral drugs, an evaluation of the complete blood pictures and differential count should be performed on the newborn (Chiu, n. d.). Repeat measurements of hemoglobin is mandatory throughout the treatment and following the completion of the regimen (Chiu, n. d.). Breastfeeding by means of the HIV-infected mother gives the infant a 16% excess risk of transmission (Chiu, n. d.). Breastfeeding therefore must be contraindicated in order to allow the infant the safest possible food source (Chiu, n. d.).

[Heading 4]. [When using headings, don't skip levels. If you need a heading 3, 4, or 5 with no text following it before the next heading, just add a period at the end of the heading and then start a new paragraph for the subheading and its text.][Heading 5]. [Like all sections of your paper, references start on their own page. The references page that follows is created using the Citations & Bibliography feature, available on the References tab. This feature includes a style option that formats your references for APA 6th Edition. You can also use this feature to add in-text citations that are linked to your source, such as those shown at the end of this paragraph and the preceding paragraph. To customize a citation, right-click it and then click Edit Citation.]