What Worked in Cuba: Possible Prevention Strategies in the Fight Against Mother to Child Transmission of HIV in Lesotho.

World Health Organization validated Cuba as the first country in the world that has successfully eliminated Mother-to-Child Transmission (MTCT) of HIV and syphilis. While Lesotho continues to lag behind in this regard, this paper attempts to unveil the strategies that were utilised by Cuba in the prevention of mother to child transmission and how the former can adopt such strategies to successfully eradicate MTCT.

This study employed a qualitative approach and data was gathered using interview guide. Data was gathered from health care personnel in two health centres; a hospital and a clinic. Staff from Non-Governmental Organisations dealing with PMTCT programs were also interviewed. Data obtained was then analysed using thematic analysis. Secondary data from various sources including United Nations and World Health Organisation reports on HIV and AIDS and reports on Millenium Development Goals progress was also used. Hence the study also entailed desk research.

Introduction

The United Nations General Assembly, at the 2000 United Nations Millennium Summit adopted what is known as the Millennium Declaration. McGillivray (2008) indicates that the Millennium Development Goals actually emerge from the section of the Declaration addressing development and poverty eradication. Cuba was also among the 189 nations that committed themselves for this new global partnership to reduce extreme poverty and achieve substantial progress in human development through realization of the eight overarching Millennium Development Goals and targets.

On the 30th of June 2015, World Health Organization Director- General, Dr. Margaret Chan validated Cuba as the first country in the world that has successfully eliminated mother-to-child transmission (MTCT) of HIV and syphilis. In her speech, Dr. Chan indicated that eliminating transmission of the virus is one of the greatest public health achievements possible. Dr. Margaret Chan also reiterated that this achievement is a

major victory in the long fight against HIV and sexually transmitted infections and an important step towards having an AIDS free generation.

According to Penfold (2015) Cuba's success resonates in the Millennium Development Goals to reduce child mortality, combat HIV and AIDS, Malaria and other diseases as well as in the Sustainable Development Goals to reduce the global threat of HIV and AIDS. Penfold (2015) also suggests that if SADC could mimic or adopt the same level of success that the PAN American Health Organisation has, this could significantly decrease mother to child transmission in the region. Hence this paper is therefore an attempt to unveil the strategies that were adopted by the Republic of Cuba in the prevention of mother to child transmission of HIV and how such strategies can possibly be used by Lesotho in the prevention of the same.

At this juncture perhaps it is equally important to have a general overview of the Republic of Cuba

General Description of the Republic of Cuba

Serrate et al (2007) defines Cuba as an archipelago formed by the island of Cuba which is the largest of the Greater Antilles and more than 3,715 islets and key, including Isla de la Juventud which stands out on account of its relatively large size. The country covers a total of 114, 525 km². It is located to the south of Florida, to the north of Jamaica, to the east of Yucatan Peninsula, and to the west of the Bahamas and Hispaniola.

Cuba is organised politically and administratively into 14 provinces, 169 municipalities and special municipality of Isla de la Juventud. About one fourth of its surface is covered by mountains and hills. According to World Population Review (2015) the population of Cuba is estimated at 11.2 million, with a population density of 102 people per square kilometre.

Serrate et al (2007) also outline the following as the main objectives of Cuban social policy:

- Access to basic nutritional requirements

- Universal and free access to health and education services, including university
- Adequate income for retirees and people who require economic support from society
- Sources of employment: worker protection and relaxation
- Comfortable housing, preferably single family
- Gradually achieve a fairer society, with solidarity and
- Free education on all levels, which is compulsory between the ages of 6 and 14

Looking at the objectives stated above, it is clear that Cuba also places a high priority on health services which are not only aimed at being universal but also free. Evidence proves that while Cuba has been well known for its peculiar public health policies, the country has always responded tenaciously to tackle diseases which would otherwise be detrimental to its citizens. For example, Smallman (2003) clarifies that unlike some other Latin American nations, Cuba began an aggressive program to control HIV from the earliest stage of the epidemic and this program has had remarkable successes.

One initiative which is peculiar to the Cuban government, in an effort to curb the spread of HIV was placing those who tested HIV positive into the sanatoria. Patients in the sanatoria received free medical care, access to medications, additional rations, salaries and better living conditions than were available to Cubans living outside (Smallman, 2003). Though this effort was later on besieged with greater challenges and criticised on human rights concerns, it however marks one of the outstanding landmarks of a purpose driven government.

It is not surprising therefore to find the Republic of Cuba once again making the news headlines worldwide for its keen achievement from which many countries can learn a thing or two.

Mother to Child Transmission of HIV as a global concern

MTCT is the most significant source of HIV infection in children below the age of 15 years. In 2001 WHO recorded that since the beginning of the pandemic, an estimated 5.1 million children worldwide had been infected, almost all through MTCT, and in 2000, of more than 600 000 children who became infected, 90 percent were in Africa. Awungafac et al (2015) also report that HIV and AIDS were associated with 1.8 million deaths including 250 000 among children less than 15 years in 2010. Birhane et al (2015) on the other hand state that vertical transmission of HIV is still a major challenge in the world, especially in developing countries. Aligning with the above mentioned rates of infection and mortality, it is very safe to conclude that MTCT is beyond a doubt a global concern which requires immediate attention. This is also reinforced by goal 3 of the Sustainable Development Goals (SDGs) which codifies as one of its targets to end preventable deaths of new borns and under- five children by 2030.

HIV can be transmitted from an infected mother to her child during pregnancy, labour and delivery or breastfeeding (WHO, 2001). Below are the efforts pioneered by Cuba in eliminating MTCT of HIV.

Efforts towards eliminating mother to child transmission of HIV by Cuba

Cuba's success to eliminate mother to child transmission of HIV and Syphilis comes as a joint effort between WHO/PAHO, partners in Cuba and other countries in the Americas, all which have been collaboratively engaged since 2010 to implement a regional initiative towards this goal. While this is the case, Penfold (2015) emphasises on the WHO/PAHO partnership as key to Cuba's success story, the partnership which particularly resulted in the implementation of the two programs: the global plan towards the elimination of congenital syphilis and the 2011 global plan towards the elimination of new HIV infections among mothers and children. WHO (2015) on the other hand asserts that as part of the initiative the country has put in place the following strategies:

a) Early access to prenatal care

b) HIV and syphilis testing for both pregnant women and their partners

c) Treatment for women who test positive and their babies

d) Caesarean deliveries and

e) Substitution of breastfeeding

Having identified these strategies, the discussion below will focus on individual strategy and how it contributes to reduction of mother to child transmission of HIV

a) Early access to prenatal care

According to Stubblefield (1999) the practice of prenatal health care (regular visits to a health professional throughout pregnancy) is well accepted as essential to the well being of mother and fetus. Hampanda (2012) also considers prenatal care as the beginning phase of PMTCT when the woman is tested for HIV and receives the result that she is HIV positive. Comprehensive care and support services for HIV-infected women at this stage include reproductive health counselling and related services that enable them to make informed choices about child bearing in the context of HIV and carry them through. WHO (2002) maintains that wider access to HIV counselling and testing services enable more infected women to learn about their status in time to plan their reproductive lives including whether they want to bear a child or not. For those whose HIV infection is only identified in early pregnancy, post test counselling include full information about the risk of mother to child transmission of HIV and the interventions available to reduce this risk.

b) HIV testing for both pregnant women and their partners

While HIV testing has been utilized as a strategy to prevent MTCT, studies show that Cuban government has long engaged its citizens on a country-wide scale conducting this service. According to Cooper et al (2006) a nation-wide screening programme which began in 1987 reached 80% of the sexually active population.

UNAIDS (2001) states that the most effective intervention to reduce transmission from mother-to-child depends upon a women knowing her HIV status, and that in turn depends upon the availability of information, counselling and voluntary testing

services. There is a great deal of information that women and their partners need to know before deciding whether or not be tested for HIV. UNAIDS (2001) indicates that young women and men presenting at the health services should all receive information about sexual transmission of HIV and how to prevent it as well as transmission of the virus from mother to child. Helping HIV positive couples to avoid an unwanted pregnancy also cut the number of new infection.

Counselling and voluntary testing for HIV have benefits beyond the prevention of MTCT and below are some of these benefits for pregnant women and their partners as outlined by UNAIDS (2001)

- They can weigh up the risks and advantages of a pregnancy
- They can make choices about contraception
- The couple can make choices about preventing future HIV infection, including condom use

c) Treatment for women who test positive and their babies

WHO (2003) clarifies that providing treatment is essential to alleviate suffering and to mitigate the devastating impact of the epidemic. The use of antiretroviral drugs during pregnancy and delivery has been shown to be effective in reducing the transmission of HIV from mothers to infants (WHO, 2001). These findings concur with Lussiana et al (2015)'s observation that antiretroviral therapy has proved effective in reducing rates of mother to child transmission of HIV and to very low levels not only in resource-rich countries but also in some resource-limited context.

These regimens reduce the risk of MTCT by decreasing viral replication in the mother and through prophylaxis of infant during and after exposure to the virus.

d) Caesarean delivery method

According to Gullotta and Bloom (2003), strong evidence has emerged that HIV infected women with elective caesarean section delivery, when caesarean section is performed before rupture of membranes and before onset of labour are at significantly lower risk of transmitting HIV infection to their children. In a research carried out by International Perinatal Group (1999) quoted in Gullotta and Bloom

(2003), over 8000 births were reviewed from 15 studies and the findings revealed that there was a 57 percent lower risk of transmission of HIV when caesarean delivery was performed before the onset of labour and membrane rupture, and 87 percent lower risk among the women who were receiving the PACTG 076 ZDV regimen.

Gullotta and Bloom (2003) further state that elective caesarean section lowers transmission rates by protecting the infant from direct contact with the mother's genital tract secretions and blood which may contain HIV.

e) Substitution of breastfeeding

Transmission of HIV through breastfeeding has been well documented. WHO (2005) states that the first report indicating the possibility of HIV transmission through breast milk were of breastfed infants of women who had been infected postnatally through blood transfusion or through heterosexual exposure. It is estimated that annually 200 000 infants worldwide acquire HIV through breastfeeding. When breastfeeding is common and prolonged, transmission through breast milk may account for up to half of the infections in infants and young children (WHO, 2005).

Gullotta and Bloom (2003) therefore conclude that the solution to this problem lies solely in having HIV positive mothers avoid breastfeeding altogether and feed their infants with breast milk replacements such as commercial infant formula or homemade infant formula. Gullotta and Bloom (2003) further observe that in developed nations, this viable option has been adopted by the majority of HIV positive mothers.

Although replacing breastfeeding is essential as a PMTCT strategy, it however deprives non breastfeeding mothers some benefits which include contract of the uterus, expulsion of the placenta, reduced bleeding, rapid return to the pre-pregnancy weight etc, all which are usually benefited by the breastfeeding mothers (UNICEF, 2011).

In general, it is of utmost importance to take into cognisance that though these strategies have proven to be fundamental in the prevention of mother to child

transmission of HIV, none can achieve the desired outcome if adopted alone. Hence in the case of Cuba, these are strategies which were adopted chronologically and at different trimesters of the pregnancy up to delivery stage. For example, breastfeeding replacements are only utilised after the baby is born. In support of this observation, WHO (2001) states that remarkable reductions in paediatric HIV infection rates have been observed in industrialised countries when the Pediatric AIDS Clinical Trial Group (PACTG) Protocol 076 showed that administration of zidovudine regimen to women from fourteenth week of pregnancy and during labour, and to the new born decreased the risk of MTCT by nearly 70% in the absence of breastfeeding. WHO (2001) further shows that when combined with elective caesarean section, this regimen resulted in a transmission rate of 2% or less, in non-breastfeeding population. Therefore it can be concluded that these strategies are interdependent.

Penfold (2015) recognises that Cuba's health system is described as a model for the world, despite a lack of resources and financial assistance. Penfold further indicates that one of the essential drives in eliminating MTCT in Cuba lies in the combined efforts of the Cuban government and its political tenacity in working to stop the halt of the virus. It is absolutely sensible to consider those who devise a country's development agenda as fundamental instruments in achieving its goals. A sluggish government implies sluggish progress in development issues. The involvement of the Cuban government therefore cannot be underestimated in magnifying this country as a figurehead.

Mother to child transmission of HIV in Lesotho

Government of Lesotho (2010) states that Lesotho's overall HIV prevalence is among the highest in the world at 23.7% with a mean prevalence among pregnant women of 27.7%. Out of 1.89 million people, approximately 270 000 are infected with HIV, including approximately 12 000 children. It is estimated that there are 55 000 annual births in the country, out of which approximately 15 235 infants are born to HIV infected women each year. In the absence of any intervention to prevent vertical transmission of HIV, the Government of Lesotho (2010) also estimates that this would result in approximately 6 094 new paediatric HIV infections per year.

In an attempt to counteract these alarming statistics, the government of Lesotho, in 2010, published National Guidelines for the Prevention of Mother to Child Transmission of HIV which were adopted by health care centres country-wide. These guidelines clearly outline components that were implemented in the same year, to optimise the effectiveness of PMTCT. The discussion below will now focus on prevention strategies currently used in Lesotho.

a) Provision of prevention, educational and other services in communities

This strategy is widely adopted in rural communities and village health workers are key players in this regard. Village Health Workers are comprised of community health workers and traditional Birthday Attendants and are trusted and respected members of the community chosen by the community to promote good health practices as well as provide some preventive and curative aspects of health care (Government of Lesotho, 2010). As a large proportion of women in Lesotho deliver outside of health facilities, Village Health Workers roles in maternal and child health care include:

- Educating the community and providing emotional support
- Promoting early initiation of ANC for HIV positive pregnant women to benefit from early initiation of ARV prophylaxis
- Encouraging and referring women for labour and delivery in health facilities
- Assisting mothers who deliver outside of health facilities
- Tracking and bringing mothers and children to health facilities if they fail to return for follow- up

An interview with one of the health care workers revealed that this strategy has been very effective in producing results though it has been overwhelmed with various challenges lately. Among such challenges include lack of transport to distant areas, lack of incentives for these workers, shortage of equipment and others. Conclusively it was added that this strategy can continue to be useful in the prevention of MTCT if utilised appropriately and if village health care workers' grievances are well addressed.

b) Provision of HIV testing and counselling services to pregnant mothers and their partners

Counselling is defined as a confidential dialogue between a counsellor and a client aimed at helping the client cope with a difficult situation through informed decision making. Pregnancy usually presents an opportunity to engage women in health care. The introduction of HIV testing and counselling as an integral part of antenatal services enables many women to learn their status. The National Guidelines for the PMTCT provides that all women with a positive result should undergo clinical and immunological staging (CD4 cell count) to decide whether to initiate antiretroviral treatment (ART) or a prophylaxis regimen to prevent MTCT.

Information given to women is thought to be appropriate if it encourages her to have her partner and other children access counselling and testing services. It is through this information that a family-centred approach to HIV care and treatment is facilitated.

Even though this strategy aims at achieving prevention by also involving male partners, the study found that they rarely attend to health care facilities with their pregnant partners. This on the other hand continues to expose pregnant mothers and their children at risk since men, particularly in patriarchal societies are socialised to deem women as minors. Resultantly they cannot pay attention, even to fruitful teachings on PMTCT as long as they are presented by a female figure, in this case their partners. The introduction of village health workers however has brought about commendable results as they follow up the concerned partners individually and educate them on one to one sessions of the necessity of attending health care facility services.

c) Treatment of pregnant mothers who test HIV positive

One of the health care specialists, who also work for a locally based international NGO, indicated in an interview that immediately after pregnant women are discovered to have been infected with HIV, they are initiated on Antiretroviral Therapy (ART). While this is the recent practice she also added that unlike earlier when their CD4 count was expected to reach a certain level, 350, this helps to keep both mother and the baby healthy as the immune system is not compromised.

The challenge however remains that the issue of stigma continues to dominate some local communities. Hence this leaves some pregnant mothers very hesitant to know their status for fear of sanctions from labels that are likely to be attached to them by community members upon coming to the knowledge of their HIV positive status. Given these findings, reaching successful elimination of MTCT in the country in question then becomes an illusion unless education programs are intensified to reach to the remotest areas. Another outstanding challenge has been that of inconsistency in supply of ARVs. It is accustomed of health care centres in Lesotho that at some point they will run out of treatment. This becomes detrimental to pregnant mothers whose healthy and strengthened immune system does not only protect them but also their unborn babies. This situation results in increased viral load which coupled with improper nutrition exposes the baby to greater risks, even of opportunistic infections.

d) Recommendation of exclusive breastfeeding or replacement feeding

HIV can be transmitted from the mother to the infant during breastfeeding. However, this risk can be reduced to a minimum by providing ARVs to the mother and infant and by feeding the baby exclusively with breast milk for the first 6 months. Exclusive breastfeeding implies that nothing other than mother's breast milk should be given to the infant (Government of Lesotho, 2010). Appropriate complementary foods are then introduced thereafter and breastfeeding is continued until 12 months of age. At this stage breast feeding can be stopped once a nutritionally adequate and safe diet without breast milk can be provided.

Benefits of exclusive breastfeeding include the following:

- Breast milk provides complete nutrition for the infant for the first six months of life
- Breast milk contains antibodies from the mother which are beneficial to the infant, as the infant's own immune system is not completely developed during the early months of life
- Breast milk is natural and does not add extra cost
- Breast milk promote bonding between mothers and their babies

- Breast milk is easily digested and its composition changes to meet the developmental needs of the growing infant

For middle or high income families, or those who can afford, breast milk replacements are recommended but not mixed feeding.

In a developing country where finances are usually constrained, it is often the case that even most useful programs can be compromised. This does not leave mountain kingdom asunder. Exclusive breast feeding has been difficult, particularly for mothers working outside the home. High unemployment rates tend to force mothers to migrate to far places and in the process leave their infants in the custody of their mothers or the in-laws. While this is so the uneducated generation introduce their traditional feeding practices to the baby and this exposes them to infections as mothers also breastfeed their children when they come home, normally every month end.

Prevention of mother to child prevention strategies have been implemented for more than a decade in Lesotho. Though there has been progress in this regard, it is important to note that MTCT rates are still high in the country. In the absence of recent MTCT statistics, the more reliable data is that which is provided by the Government of Lesotho (2013) which clearly points out that the country's efforts on the prevention of Mother to Child Transmission (PMTCT) have slightly decreased MTCT from 28 percent in 2009 to 26 percent in 2013. On the basis of these records it is very evident that the country has to scale up its efforts if it were to successfully eliminate MTCT.

Other challenges observed in Lesotho

PMTCT initiatives in Lesotho are faced with crippling challenges which makes this country lag behind in a race to achieving elimination of MTCT. Among such challenges include:

a) Misinformation: some pregnant women are fed with wrong information by their community members who they trust to be knowledgeable on the issues of maternal health.

b) Lack of health centres in rural areas: in the remotest parts of the country, there are no health care centres and so as a result pregnant mothers find it more convenient to resort to traditional methods of health care which are usually next to them

c) Shortage of human resources: some health care centres are dourly understaffed and those engaged serve in many different sections such as TB corners, casualties and others. It then becomes a challenge when they have to attend to hundreds of patients in a day. Hence there is a greater possibility of compromising other patients.

d) Attitudes of health care workers: some health care centres are well known for unprofessional conduct of their staff towards their clients. This also contributes to pregnant mothers' hesitant behaviour in attending either prenatal or post natal care services. One nurse specialist pointed to the fact that these attitudes are in part bore by their long standing grievances which are ignored by those who should be addressing them

Prevention of Mother to Child Transmission of HIV strategies; Cuba versus Lesotho

While the strategies employed by Cuba in the fight against mother to child transmission of HIV are identical to those used in Lesotho in many ways, the only two outstanding differences lie in deliveries and the infant feeding program. The first difference is witnessed as Cuban has employed caesarean deliveries while natural deliveries are practiced in Lesotho. Secondly, in the case of Cuba total substitution of breast milk with formulas is adopted whereas in the context of Lesotho exclusive breastfeeding is highly recommended. These differences can be attributed to difference in financial resources between the two countries. Cornman and Johnson in Gullotta and Bloom (2003) note that in resource-poor developing countries, the use of breast milk replacements is often not feasible because of cost, practical consideration and cultural reasons. Lesotho as a least developed country therefore, given its economy is likely not to resort to breastfeeding replacements because of their costs.

In conclusion, the 2010 National Guidelines for prevention of Mother to Child Transmission of HIV in Lesotho seem comprehensive, at list on the paper, to

successfully eliminate MTCT. The need for tenacious and industrious efforts has to come from those in power and supporting NGOs in addressing the pending challenges as identified above. If more health care centres would be built even to the remotest areas of the country, health care practitioners grievances be met, education programs be intensified country-wide, in an effort to combat stigma, and other necessary improvements and changes be made, MTCT will be a history in Lesotho.

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