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Prevention of Parent to Child HIV Transmission (PPTCT): The Sub-Saharan Africa Dilemma

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Abstract

HIV/AIDS is a global health issue that disproportionately affects certain regions of the world due to disparities that exist in socio economic capacities to confront the pandemic squarely. Sub-Saharan African countries are still dealing with record high HIV prevalence due to mother-to-child transmission of HIV even with innovative strategies proposed by WHO. Most recently is the introduction of PMTCT guidelines, and despite dramatic positive results in the developed world, the goal of achieving a zero pediatric HIV infection rate is still a tall dream. This paper points out the unique challenges facing Sub-Saharan Africa in a bid to highlight areas where improvements can be made for a more targeted and evidence based approach towards achieving the global goal.

Keywords: HIV; Sub-Saharan; Africa

Introduction

An estimate of 370,000 pediatric Human immune Deficiency (HIV) cases were recorded in 2009 all over the world implying that there are more than 1000 cases recorded on a daily basis and nearly all are attributed to mother to child transmission [1]. According to UNAIDS, 91% of the 3.4million children (15years and below) living with HIV are in Sub-Saharan Africa, and in the absence of any antiretroviral therapy (ART), HIV infected children in Africa die by the age of two [2]. At present, not much is known about the nature and results of care and treatments available for managing HIV in children in developing countries. Similar to this constraint is the extent of data vacuum that exist in terms of; number of HIV positive children and those eligible for treatment. This information can be used to accurately estimate the amount of supplementary resources that will cater to the peculiar needs of HIV infected children [3]. The burden of HIV on the child's health is enormous for the child and the mother who has an extra duty of catering to both the needs of her child and herself – in most cases the ultimate agent of infection for the child. As scientific research continues to advance and seeks ways to tackle the menace of HIV, there is so much that can be done to solve the issue of pediatric HIV caused by transmission from infected mother. Restricting the burden of transmission to mothers only can be daunting considering that sometimes an infected woman may have contracted the virus from her male partner in the course of pregnancy or even breastfeeding. Prevention of Mother to child HIV transmission (PMTCT) is interchangeably used with Prevention of Parent to child HIV transmission (PPTCT),

however PPTCT being the most recent, emphasizes the contribution of fathers to the condition [4].

In moving toward a HIV free generation, one of such interventions to ensure zero children born with HIV is the Prevention of Mother to child HIV transmission (PMTCT). In the absence of intervention of any sort, there is a 20-45% chance of transmission from a mother unto her baby and so the current global challenge is to decrease by 90% the incidence of pediatric HIV and secondly, decrease by 50% the rate of HIV- specific maternal mortality [5]. According to the new WHO guidelines released in September 2015 it is recommended that [6]:

- ✓ Lifelong anti retroviral treatment (ARV) be provided to all pregnant and breastfeeding HIV-positive mothers irrespective of their CD4 count. This is referred to as option B+ an improvement from the 2013 guideline option B, which did not mandate a lifelong management.
- ✓ A course of ARV treatment, linked to the mother's treatment and breastfeeding option, should be given to all babies born to HIV-positive mother immediately after birth. Early infant diagnosis and final infant diagnosis at 4-6weeeks and 18months/at the end of breastfeeding respectively will be carried out.

Other practices involved in the PPTCT include early diagnosis through antenatal routine testing, co testing and counseling for couples, use of antiseptics on birth canal after birth, steering the infant clear of any maternal secretions like blood at birth- necessitating the option of a caesarian section and avoidance of breastfeeding [4,7].

In developing countries there are certain restraining factors to the delivery and uptake of HIV care and treatment services spanning across antenatal care, labor, delivery and postpartum [8]. In comparison to the developed countries, the standard of maternal and child health (MCH) service and delivery, variations in breastfeeding practices and sociopolitical systems affect the progress of PPTCT in developing countries.

The Sub-Saharan Africa Challenge

Many countries are suffering disproportionately from the scourge of HIV/AIDS and require unique interventions to tackle the challenge they face in order to achieve global eradication of HIV/AIDS. Although significant successes have been recorded with application of PMTCT services in Sub-Saharan Africa much more needs to be done. This paper focuses on highlighting challenges posed in a bid to inform innovative approaches for result oriented interventions and better outcomes.

Sub-Saharan Africa is considered home to over 90% of the children in the world with Nigeria currently ranking the highest for rates of vertical transmission worldwide and this has been attributed to poor knowledge amongst health providers on the knowledge of PMTCT interventions resulting in limited coverage [9]. Women have been strongly implicated in the HIV pandemic due to their susceptible biologic nature as well as social and psychological predisposition influenced by economic, social, cultural and legal elements. This has an effect on how patients adhere to ART and PMTCT requirements [10]. In the developed countries, the situation is different with state of the art medical infrastructure, Available and feasible alternatives for childbirth and infant feeding options, and higher coverage of the population in need of these services.

Poor Surveillance

In 2009 it was on record that 11% of HIV positive women in Nigeria had received a form of PMTCT intervention but issues of follow-up became a challenge with identifying infant HIV cases and the proportion of these infants that received intervention of any sort. Limited facilities for early infant diagnosis affects service delivery and subsequent objective outcome evaluation of PMTCT programs [9]. Even when some facilities are able to provide effective care for the purpose of PMTCT, they lack the capacity to monitor progress after birth and so they fail to provide necessary support after birth and advice on feasible infant feeding options [11]. Even program evaluation studies do not provide clear quantitative findings about MCH services attendance, counseling for infant feeding practices and costs as well as stigma issues [12].

There have been recorded cases of multi drug resistance associated with postnatal infant or maternal prophylaxis through breastfeeding. Breastfeeding exposes infants to ARV drugs in varying quantities and as such ARV drug resistance is observed in infants. Women on triple-drug prophylaxis are likely exposing their breastfed infants to suboptimal doses of ARV through breast milk increasing their potential of developing viruses that are drug-resistance [13]. ART services implemented in Sub-Saharan Africa has expanded so much that it is only right it to effectively monitor the progress and impact of these programs in tackling the high HIV-specific mortality, with untreated infection, disease progression or death being the outcome of interest. Losses to follow up (LTFU) have been indicated to impact long-term retention in care and progress monitoring [14].

Socio-Cultural Barriers

In a recent study in Kenya, it appeared that women who received voluntary testing and counseling did not benefit as much from it because of the little support they got with regards to feeding alternatives and substitutes, considering the value their societies place on breastfeeding. Similarly in Uganda giving up breastfeeding was in addition considered as indirectly disclosing their HIV status [11,13]. For some others HIV is still seen as a spiritual condition and as such spiritual intervention is usually sought [10]. In spite collaborative efforts amongst some religious organizations and many non-governmental organizations (NGO) to promote access to PMTCT programs, some of the religious organizations associate HIV with immorality as such they do not participate in prevention and treatment interventions.

MTCT is affected by gender inequality as it determines how PMTCT services are accessed. It was seen as a barrier to accessing HIV counseling and testing (HCT) services. In Zimbabwe certain organizations were able to achieve improved male participation in PMTCT programs however the success rate is still below the national target of 30% by 2015, with majority of the districts still below the national mark. In such male dominated societies, a woman's ability to make decisions is influenced by her partner and this well extends into issues about the woman's health and pregnancy [15]. In Sub- Saharan Africa, community norms and beliefs puts women in a position where they are not permitted to negotiate sex and safe sex practices. In a given committed sexual relationship, if a woman initiates a conversation about condom use, she was associated with infidelity. Women are afraid of their male partner's reaction if they got tested without his consent and even worse when they have to disclose a positive test result. They would only be willing if they were sure of their partners consent, to avoid domestic violence or withdrawal of support [1,16]. Another barrier connected to this was the fact that antenatal care (ANC) was seen as a woman's activity and the health centers did not carry the men along in these activities. Some societies believed that only over protective men and those who lacked self-confidence follow their wives for ANC. Men were less motivated to partake in PPTCT programs and avoided being ridiculed. Some others had self confidence issues and as such prided themselves as being in good health and so they did not see the need to visit a health facility, how much more be involved in PPTCT programs [17].

Economic and Political Barriers

It is no news that these countries in sub-Saharan Africa and other underserved regions have fragile economies. Cost of implementing and accessing counseling and testing services, ARV interventions, alternative feeding options- formula feeding especially, is likely one luxury too difficult to afford. A significant percentage of these populations still live below a dollar a day. These countries are known to invest less than 5% of their GDP on health and see health as hardly a political agenda. Implementing the new PMTCT guidelines across developing and developed regions has faced challenges that makes success rates incomparable. In the developing countries, the process is more complex due to challenges in cost of resources, planning, and human capacity. In African, HIV/AIDS attracts the most political and stakeholder support compared to all other health problems in a bid to eliminate this pandemic [11]. According to Olugbenga-Bello et al despite most PMTCT programs being donor-driven, they are located in urban centers, which remain inaccessible to many invariably making the uptake of services relatively low.

Most of the health centers offering these PMTCT services are situated in locations that are inaccessible to rural women, who may never visit the health center throughout pregnancy. Those who find the means to visit may do so only once throughout pregnancy and if such woman is asymptomatic at the time of her visit, she cannot be identified as HIV positive and so she will miss out on the ARV therapy and she puts her newborn at a high risk of being infected at birth. Traditional birth attendants (TBA) who deliver babies in rural communities lack the knowledge of PMTCT, as most programs miss out on recognizing the need to incorporate them into PMTCT training programs [13].

Eliminating breastfeeding as a way to prevent MTCT, implies preparation of other infant feeding alternatives or Breast milk substitutes (BMS) under stringent hygienic and sanitary conditions, supported by steady supply of safe drinking water. Breastfeeding increases the chance of vertical transmission by 8-25% in developing countries. BMS is considered an option in developing countries only if it meets the criteria of Accessibility, Feasibility, Affordability, Safety and Sustainability (AFASS), in the absence of this breast milk is best [9]. It is no news that these countries are still dealing with diarrhea and other infectious disease due to poor water, sanitation and hygiene (WASH) conditions. Some of these countries have

even been excluded from receiving WASH aids because they are perceived as ineffective users of the aid. Many people still live in deplorable conditions and cannot afford to feed themselves not to talk of alternatives for their babies. However in the developed countries replacement feeding options are sustainable due to more favorable conditions. Some health facilities even offer already made infant formulas at no cost on hospital visits to non-HIV patients, then how much more HIV positive patients.

HIV-positive mothers who breastfeed are encouraged to do so for at least 18months in addition to ART provided for the infant and mother, because each does not entirely eliminate risk. Due to family hardship, most women who are lucky to still have jobs or those who do other forms of trade go back to work in order to keep the home running and provide for other kids. This would normally imply early weaning at about 6months of age or less, putting such HIV-exposed infants at increased risk of malnutrition and death related to infectious disease [9].

Successes Recorded and Enabling Factors

In a recent report, South Africa (known to have the highest adult HIV prevalence), recorded fewer pediatric HIV cases compared to its African counterparts that had fewer epidemics prior to the roll out of the Global plan - geared towards 90% reduction of pediatric HIV incidence and 50% reduction of HIV-related maternal and infant mortality rates in a five-year period. The successes have been largely attributed to massive ART access to HIV positive pregnant women, community support and strong political commitment in addition to other factors [9].

In Africa, a United Kingdom based Christian non-profit organization called Tearfund is making strides toward achieving the WHO zero pediatric HIV goals. Through the Tearfund African PPTCT Alliance (TAPA); local churches and faith-based organizations can reach into rural communities that are not targeted by government and other agency programs, to achieve improved male participation and increased access to PPTCT services for young girls, mothers and children. Through a framework called “Guardians of our Children’s Health” (GOOCH), they are empowering men and their partners to help prevent HIV transmission to their children. This has also improved community participation through leaders and spiritual heads to address issues surrounding stigma and discrimination. They have employed the use of focus groups and discussion sessions to bring men together and encourage them through the stories of others and provide referrals. This is currently being implemented across 11 TAPA sites in Africa, with 2 sites in Jos, Nigeria [4]. In recent studies adherence to ART and PMTCT services has been associated with good knowledge of the etiology of the disease, alternative birth and breastfeeding options and effectiveness of care received. These patients are motivated to attend counseling sessions and subsequently adhere to appointment times. This is however contrary to a study in Southwestern Nigeria, where people demonstrated high knowledge but had low acceptance of PMTCT services due to issues of ejection, stigma and discrimination. The Democratic republic of Congo is considered a low prevalence setting and part of their achievements in tackling pediatric HIV levels is through a decentralized delivery approach. This will ensure the gaps that lead to LTFU and low coverage of PMTCT programs is covered, as services are now shifted to primary care centers. A finding similar to this encourages the integration of PMTCT programs into Maternal, newborn and child health programs so that cases previously missed cab be captured and retained during childhood immunization visits [18,19].

Conclusion and Recommendation

In Sub-Saharan Africa, plagued by low antenatal attendance, low facility-based deliveries, unsustainable safe infant feeding and alternative options; ARV provision and efficacy interventions will face untold challenges because of prevailing socio-economic and political conditions. In line with achieving the global goal of zero pediatric-HIV and an HIV free generation a lot of gaps still need to be filled. Global health policies should permit flexibility for addressing local realities unique to each region. Health care centers should adopt a system where both professional and non-professional health care givers are integrated into PMTCT programs. Traditional birth attendants will be pivotal in providing social support, knowledge and referrals. They can also help with minimizing LTFU and improve adherence. Educational interventions should use appropriate communication means to meet the needs of different literacy levels. Male involvement as a means to address socio-cultural concerns must be fully integrated into every service within the PMTCT framework and overall health care delivery practice. This approach will eventually be geared towards improving community participation. This will increase access, use, and adherence to PMTCT services and clarify myths and wrong perceptions that hamper progress. Generally it is safe to say that the most cost efficient and sustainable approaches are largely based on targeting behavior changes.

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