

# Urgent need to prevent mother-to-child transmission of HTLV-1 in Jamaica

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There is an urgent need to prevent mother to child transmission (MTCT) of Human T-cell Lymphotropic Virus Type-1 (HTLV-1) infection in Jamaica and the Caribbean. This can readily be done by introducing routine HTLV-1 testing of pregnant women and advising those who are seropositive to abstain from or restrict breastfeeding to four months or less.<sup>1,2</sup> Prevalence of HTLV-1 is higher in women than men and increases with age and multiparity, with 1.5%–10.9% of women of reproductive age in Jamaica being HTLV-1 infected.<sup>3</sup> Approximately 18%–26% of breastfed infants born to HTLV-1 seropositive mothers acquire the infection.<sup>1</sup> A prospective cohort study in Kingston found that among children observed for at least 24 months, 19 (32%) of 60 children breastfed for 12 months or longer were HTLV-1 seropositive, compared with only 8 (9%) of 86 children breastfed for less than 12 months (relative risk, 3.4; 95% CI, 1.7–6.9).<sup>4</sup>

HTLV-1 can cause several associated diseases in later life, including a very aggressive cancer known as Adult T-cell Lymphoma/Leukaemia (ATL)<sup>5</sup>; HTLV-1 Associated Myelopathy/Tropical Spastic Paraparesis (HAM/TSP), an incapacitating, progressive neurological disorder<sup>6</sup>; Infective Dermatitis in children,<sup>7</sup> and other inflammatory diseases as well as increased risk of death due to any cause.<sup>8</sup> There is no cure or effective treatment for ATL and the other diseases associated with the virus; nor is there a vaccine. Transmission is primarily vertical, from mother to child through breastfeeding, or sexual. There is an increased risk of these illnesses if infection happens early in life and vertical transmission of HTLV-1 is associated with the highest risk of developing ATL.<sup>9</sup>

ATL usually occurs among persons aged 40 years or older due to a long incubation period lasting decades.<sup>5</sup> It has a dismal prognosis with an average survival time of less than one year.<sup>5</sup> We estimate that approximately 15–20 new cases of ATL occur annually in Jamaica. The lifetime risk of developing ATL is 2.5%–5%.<sup>5</sup> Without the introduction of routine antenatal screening and

limiting breastfeeding among HTLV-1 infected mothers, ATL will continue to occur indefinitely.

HAM/TSP is a chronic neurological condition occurring in approximately 0.25–3.8% of HTLV-1-infected individuals and characterised by spastic weakness of the lower legs.<sup>6</sup> HAM/TSP is associated with significant morbidity and disability resulting in poor quality of life. Infective Dermatitis was first described in Jamaican children and usually occurs early in childhood presenting with recurrent severe, exudative dermatitis involving the scalp, eyelid margins, nasal fold, neck, external ear, retro-auricular areas, axillae and groin.<sup>7</sup>

Although routine HTLV-1 screening of blood donors in Jamaica was introduced nearly four decades ago there is no screening of pregnant women. The public health consequences of failing to interrupt vertical transmission of HTLV-1 are greater than failing to screen blood donors for HTLV-1. Almost all ATL and infective dermatitis cases and up to 30% of HAM/TSP cases are associated with mother to child transmission.<sup>10</sup> This raises significant ethical issues because pregnant women are denied the opportunity to know their HTLV-1 status and prevent their newborns from becoming infected.

Some may argue that the cost of antenatal screening may be too high for Jamaica. An economic analysis conducted in the UK, where HTLV-1 prevalence is significantly lower than in Jamaica, showed that antenatal screening met key criteria for a screening program and was cost-effective.<sup>11</sup> Economic studies in Japan<sup>12</sup> and Brazil<sup>13</sup> have shown that HTLV-1 screening of pregnant women is highly cost-effective. In Japan, implementing a national antenatal screening program has reduced mother-to-child transmission of HTLV-1 from 20% to 2.5%.<sup>1</sup>

PAHO has recognised HTLV-1 as an emerging concern and now includes it in the goal to eliminate mother-to-child transmission of HIV, Hepatitis B, congenital syphilis, congenital Chagas and HTLV-1 as public health problems in the Americas.<sup>14</sup> In the Caribbean, only St Lucia and possibly Martinique do routine HTLV-1 prenatal screening. However, Brazil has taken the decision to implement national prenatal screening. There is no good reason for not introducing routine HTLV-1 screening of all pregnant women in Jamaica and other countries where HTLV-1 prevalence is relatively high.

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The Lancet Regional Health - Americas 2024;35: 100778

Published Online xxx  
<https://doi.org/10.1016/j.lana.2024.100778>

## Contributors

JPF—Conceptualisation, wrote the original draft, review & editing.

CJC—Review & Editing.

JJD—Review & Editing.

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## Declaration of interests

None.

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