



JAPANESE ASSOCIATION OF LACTATION CONSULTANTS (JALC) \*  
ACADEMIC COMMITTEE

POSITION PAPER ON HUMAN T-CELL LEUKEMIA (HTLV-1)  
VIRUS AND BREASTFEEDING

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HTLV-1 is a member of the oncovirinae subfamily of retroviruses. HTLV-1 causes two major types of diseases: Adult T-cell leukemia (ATL) and HTLV-associated myelopathy (HAM). Despite much research there is currently no effective therapy for ATL or HAM. It is therefore critical to implement immediate measures to prevent new infections.

There are 3 major transmission routes of HTLV-1: mother to child, husband to wife, and blood transfusion. ATL due to husband-to-wife infection is relatively rare, with the average latent period 50 years or more. Because over 60% of HTLV-1 infections result from mother-to-child transmission (MTCT), screening for HTLV-1 antibodies of all pregnant women is recommended by the Japanese Ministry of Health, Labor and Welfare. Where initial screening results are positive, further testing is required. Indeterminate results may require PCR to detect the presence of antibodies.

Breastfeeding is the most prevalent route of MTCT of HTLV-1. Until now, studies have reported that the risk of infection with HTLV-1 can be reduced to some degree by using artificial feeding instead of breastfeeding. However, other studies have also reported that feeding babies freeze-thawed breastmilk from sero-positive mothers and short term breastfeeding (less than 3 months) can similarly decrease the infection rate.

Table 1: Mother-to-child transmission rate (from reference 2)

Breastfeeding <3 months	Breastfeeding >4 months	Freeze-thawed breastmilk	Artificial Feeding
1.9% (3/162)	17.7% (93/525)	3.1% (2/64)	3.3% (51/1553)

In recent times, the benefits of long-term breastfeeding are well-documented: protection against infection, improved cognitive ability, lower blood pressure and lower total cholesterol in adulthood, as well as protection against obesity and diabetes. There are important benefits even to short-term breastfeeding, in particular the effect of breastfeeding on intestinal immunity and the associated lack of effect of heterogeneous proteins in the gut.

Japan has a long history of mixed feeding, with mothers combining partial breastfeeding with artificial feeding. It is a common assumption amongst medical staff and HTLV-1 sero-positive mothers in Japan that reducing the ratio of breastfeeding will correspondingly reduce MTCT of HTLV-1. In the case of HIV (human immunodeficiency virus), also a retrovirus like HTLV-1, the MTCT transmission rate is significantly higher where mothers mixed feed compared with mothers who exclusively breastfeed. (References 7-9)

Similarly, there are studies to suggest that the MTCT rate of HTLV-1 is also higher where mothers mixed feed than where they exclusively breastfeed. There are not many cases, but if we look at the data from Takezaki (1991) we find the following:

Exclusive breastfeeding (<6 months)	Long-term breastfeeding (>7 months)	Short-term breastfeeding (<6 months)	Artificial feeding
0.0%	15.8%	3.5%	3.5%

The data was further broken down with the consent of Takezaki as follows:

Table 2:

Exclusive breastfeeding (<6 months)	Mixed feeding (<6 months)	Exclusive breastfeeding (>7 months)	Mixed feeding (>7 months)
0.0%	1.0%	15.1%	18.5%

It is therefore important to bear in mind that mixed feeding may increase rates of MTCT of HTLV-1 more than exclusive breastfeeding or artificial feeding.

To reduce the MTCT risk of HTLV-1 infection while still providing children with the known health benefits of breastfeeding, mothers must receive information to make an informed choice. Mothers can exclusively breastfeed for 3 months, followed by a choice of freeze-thawed breastmilk or artificial feeding thereafter. Furthermore, health care professionals should inform the HTLV-1 sero-positive mother of the documented advantages to breastfeeding, while supporting her to make her own choice of feeding method for her baby.

## References

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\* Refer to formal website of JALC: <http://jalc-net.jp/>