

To the questions raised by Barbara Sasser.

She asks if we ‘believe in the presence’ of infectious HIV in human milk, or what I call Factor X. I am not sure what that means. As a policy oriented (rather than science oriented) person, I am mainly interested in the ways in which actions relate to outcomes. When I turn a knob on my radio, the volume becomes louder. I don’t need to know how or why; I only need to know that it works. A science oriented person might be interested in what goes on in the box, but I don’t need to understand that—so long as it works.

She also asked, “Do you think such important evidence is needed to develop policies and practices leading to the best possible outcomes for mothers and babies in relation to breastfeeding and HIV/AIDS. If not, why?” •

My answer is that while evidence of the virus in breastmilk might be useful, it is not essential. That is, it is not essential if we can specify associations between actions and outcomes. If a certain feeding practice consistently led to better health outcomes for infants, I would support that treatment. My position on that would not be affected by what scientists were able to see or not see under their microscopes. As a policy oriented person, I am more interested in the effectiveness of treatments than in their explanation.

Year ago, in “HIV/AIDS, Infant Feeding, and Human Rights.” • In Wenche Barth Eide and Uwe Kracht, eds., *Food and Human Rights in Development. Volume I. Legal and Institutional Dimensions and Selected Topics* (Antwerp, Belgium: Intersentia, 2005).

I said:

Though they cannot always be distinguished empirically, conceptually it is useful to distinguish among the sequential stages that are possible with any kind of infection: exposure, transmission, infection, disease, and death. The linkages at each stage usually occur with a time lag, and with less than one hundred percent certainty.

The terminology of the virus transmission discussion suggests that if even a small number of “copies” of the virus pass from the mother to infant (transmission), that infant is thereby infected - by definition. However, some analysts emphasise the importance of “seroconversion”, i.e. the change in the bloodstream that may result from the activity of the virus. Transmission is instantaneous, but seroconversion, or the process of infection, might take weeks or even months. The evidence of seroconversion is the presence of antibodies in the bloodstream. It is important to distinguish infection in the first sense (presence of the virus) from infection in the second sense (seroconversion) because the first does not always lead to the second.

Thus, there is a distinction between transmission and infection, and there is a time lag between them. There is also a distinction between the onset of infection and the onset of the symptoms of disease. The official definitions of AIDS specify lists of AIDS-defining diseases. There is often a long time lag between the detection of HIV infection and the detection of any AIDS-defining disease. And there is another time lag between the onset of AIDS and subsequent AIDS-caused death, if it should occur. All of these time lags can make it difficult to track the chain of causation.

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When infants are diagnosed as HIV-positive, it is difficult to determine whether the virus was transmitted during the pregnancy, the birth process, or breastfeeding. It is commonly assumed that increases in viral load in breastfed infants are attributable to the breastfeeding. However, there is evidence that the viral load in the infant can increase after birth even in the absence of breastfeeding. . .

I agree with Barbara's argument that so far we really do not have compelling evidence of transmission of HIV via breastmilk. I don't think finding something new under microscopes would change that. How could the identification of a novel Factor X in the viewfinder demonstrate that it was the means of transmission, and the transmission was not through some other possible path?

Even if X was the means of transmission, we need to consider that protective factors in breastmilk might outweigh its infectivity, so that even if X was present, it made sense to breastfeed.

Because of such uncertainties, my main concern is what treatments lead to what outcomes. The explanations are secondary.

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