

AnotherLook
at breastfeeding and HIV/AIDS

Patents, Breastfeeding, and HIV
A Position Paper by Valerie W. McClain, IBCLC

The mysteries of human DNA have gradually been unveiled with the Human Genome Project. Some believe this to be the modern day search for the Holy Grail. The double helix, our DNA, has been considered to be the language of God and now scientists have translated it for the people. We are led to believe that with this translation will come the power to heal, to repair those mistakes made by nature. But is this God-like power to create and imitate life a power that also can destroy life? (1)

Although most attention has been focused on the ability to repair genetic defects, scientists are now creating and imitating human milk components. They hope to be able to genetically engineer an infant formula with some components that closely resemble human milk. Some government officials and scientists believe that the possibility exists of creating an infant formula better than human milk. The National Institute of Child Health & Human Development (NICHD) wrote in requesting for clinical studies for the Healthy People 2000 Project in 1991:

“Although it is commonly stated that human milk is the optimal food for newborn humans, it might be possible to develop artificial formulae which enhance infant development and health even more than does human milk...” (2)

Some scientists are also seeing the potential of human milk components genetically engineered for use in the treatment and prevention of disease.

A 1980 US Supreme Court ruling that life forms could be patented has stimulated much of this research. This changed the practice and direction of research. Scientists have used funding from the pharmaceutical and infant formula industries, as well as universities and governments to patent many compounds made by living beings. Patents allow industries to turn life forms into private property and create a monopoly based on their particular discoveries. Presently, there are about 635 patents in the US Patent Office that involve human milk.

Research on human milk components done in the 80's and 90's has shown that imitating the properties of various components has huge potential for prevention and treatment of diseases in humans and animals. Studies have shown that alpha-lactalbumin in human milk causes apoptosis (cell death) of cancer cells. The implication for treatment in cancer is profound. The studies also show that lactoferrin in human milk inactivates the HIV virus as well as other viruses, bacteria and fungi. Some companies such as Pharming, a biopharmaceutical company in Leiden, Netherlands (<http://www.pharming.com/>), are developing human lactoferrin for use as a heparin-neutralizing agent. It also has potential as treatment for arthritis. Human milk will be used to treat STDs. Bile Salt Stimulated Lipase (BSSL) a human enzyme produced in human milk (also produced in the pancreas) is considered useful in the treatment of cystic fibrosis and chronic pancreatitis. Human Milk Fat Globule is also used to help produce monoclonal antibodies (monoclonal antibodies are considered a multi-billion dollar industry). Human milk components have a huge potential in the health care industry. The genetic engineering of

human milk components for use in these industries may involve billions of dollars in profit for those who hold patents to these components.

While most of the patents are geared toward the genetic engineering of human milk components, there are a few patents that propose the use of the real thing. It would seem that these scientists are trying to create a monopoly on human milk or its components. One of these patents is assigned to Snow Brand Milk Products of Japan that has now merged with Nestle of Japan. This patent is about the use of lactoferrin from any mammal and uses human lactoferrin as an example. It states that lactoferrin is effective against enveloped viruses such as HIV.(3)

This patent creates some serious questions. First, there are a number of patents on using genetically engineered human milk components to treat and prevent HIV/AIDS from various companies and the US Government. If one believes that human milk is one of the routes of HIV transmission, then genetic engineering of these components makes sense. It appears that the supposition would be that the patented product would have the benefit of human milk without the assumed transmission. However, this patent is not about genetically engineering human lactoferrin. It's about using real human lactoferrin and significantly, this is a patent owned by an infant formula company. This company also owns a patent on using synthetic human or bovine lactoferrin against HIV. Why have both patents? Are they trying to cover all possibilities about monopolizing this idea?

What does the infant formula industry know about HIV and human lactoferrin? Is information on the benefits of breastfeeding for mothers who are HIV positive being suppressed in order that major industries continue making enormous profits? Is information on the transmission of HIV through breastmilk erroneous? Shouldn't patenting of human milk components be public knowledge? These patents reveal the wonder of human milk and its ability to prevent and treat diseases.

In a society that does not value breastfeeding, the patenting of human milk components creates a system that can only become more dependent on the infant formula and drug industries. The members of society cannot value breastfeeding because they are kept ignorant of its wonders. Industries hold this knowledge to themselves in order to make a profit, and governments influenced by these industries are silenced.

While research on human DNA is being unveiled to the public, shouldn't research on human milk be revealed to all people? It is ironic but not surprising that it is the infant formula and drug industry, who have so much faith in human milk, that they are willing to patent its properties. This patenting can only be detrimental to the understanding, promotion, support, and encouragement of breastfeeding.

1. Kevin Davies, Cracking the Genome: Inside the Race to Unlock Human DNA (New York: The Free Press, 2001)12.
2. <http://www.ibiblio.org/pub/docs/nih-nsf/rfahd-91-10.910308>
3. <http://www.uspto.gov/patft/index.html> patent #5725864