A perspective on the inappropriate infant feeding practices observed among KwaZulu-Natal mothers: Professional expectations clash with human nature's realities

"The difficult we can do right away . . . the impossible takes us a bit longer"

Slogan of the US Naval Engineer Seabees

It is currently recommended as best public health advice that women infected with HIV prevent maternal to child transmission (MTCT) of the virus by abstaining from breast-feeding and provide exclusive replacement formula feeding as long as the latter is acceptable, feasible, affordable, sustainable and safe (AFASS); otherwise, they should choose to maintain exclusive breast-feeding (EBF) as the mode of nutrition.[1] This policy is based on secure science that mixed feeding, i.e. maternal milk combined with any other sustenance, including plain water, produces a greater incidence of MTCT.[2-4] When it comes to programme implementation (or the lack of it), we operate in a context of real world realities, in which the social stigma associated with HIV/AIDS is overwhelming and the resources for diagnosis and treatment are limited, even when a woman ventures to know her HIV status. This reality erases the carefully contrived algorithms from the chalkboard, and throws everything into the cauldron of generally-accepted community practices, at times guided (or misguided) by attempts to deliver messages of public health advice. So, when individual differentiation is not an option in pre- and postnatal case management, the question arises: which "one size" solution "fits all" of the disadvantaged women in HIV endemic communities? The evidence-based and logistically feasible response would say: EBF. Although this would be the second safest option for an HIV-infected mother, this is just what the public health community ordered for the uninfected population at large. The WHO, in 2001, subscribed to the statement that "recommends EBF for 6 months, with introduction of complementary foods and continued breast-feeding thereafter".[5]

The foregoing narrative constitutes the current policy background for an important and timely study published by Ghuman et al[6] in this issue of the *Journal.* It provides a close up view *on the ground* in a semi-rural population in the KwaZulu-Natal Province in South Africa, which is at the epicentre of the HIV pandemic, with reported prevalence rates of infection with this retrovirus of 37.5% among pregnancies in that province. The basic elements of the study were: interviewing women (who were generally unaware of their HIV status) as to their intentions for feeding their newborn infant within 24 h of delivery; and determining from a follow-up interview the actual feeding practices at 14 weeks postpartum. As one can see in their article,[6] a large number of women state from day one their intention to undertake what is considered inappropriate (mixed breast-and-bottle feeding) practices, whereas the majority declare an intention for prolonged EBF. The reality at follow-up of feeding infants into their fourth month of life is a total non-concordance with the originally declared intention. Women are almost universally untrue to their stated plans. There was virtually no formula use, but feeding water and solid items was predominant. Since, to exclusively breast-feed is both the "correct answer" to the question about feeding intention as well as the correct practice, one cannot help but agree with the authors that what they uncovered at a 14-week follow-up survey was "inappropriate feeding practices." What stands out to us, however, is not so much the behaviours documented for feeding three-month-olds, but rather the surprise on the part of the authors[6] at the revelations, bordering on indignation. The authors seemed to have expected to have found more faithful adherence to what women had declared as their planned feeding practices for their infants at birth in their initial interview.

A dispassionate examination of the survey literature on actual infant feeding practices shows that the gap between the current situation and the WHO goal is global. For instance, in Sweden, a developed country where breast-feeding is strongly promoted, where all parents are encompassed by a health insurance system guaranteeing 480 days paid parental leave for each child, and where continuous support is provided by free visits to well baby clinics, the proportion of mothers exclusively breast-feeding was 60% at four months and 15% at six months in 2006. A positive trend is that the proportion of mothers who breast-feed exclusively at six months has increased in many, but far from all, developing countries. Worldwide EBF until four months of age increased from 48% to 52% during the 1990s. During the period 2000 to 2006, UNICEF reported that, on average, 38% of children in developing countries were exclusively breast-fed at six months, with significant variations between different areas of the world: 19% of children from Central and Eastern Europe and the Commonwealth of Independent states (CEE-CIS); 28% from Middle East/North Africa; 30% from sub-Saharan Africa; 43% from East Africa/Pacific and 45% from South Asia. Collectively, the EBF rate at six months increased from 33 to 37% in developing countries between 1996 and 2006, and from 22 to 30 % in sub-Saharan Africa, whereas in the Middle East/North Africa region, the proportion of EBF for six months actually decreased from 30 to 26%. *In only 28 of all contries in the world were 50% of the infants breastfed exclusively at 6 months of age* in the 2006 survey.[7] Moreover,

despite optimistic interpretations, based on experiences in which counselling and support for exclusivity of breast-feeding are mobilised in an intervention setting,[8] there is counter-balance in less intensive promotional effort, i.e. those closer to what is sustainable in real programmatic situations in which mixed feeding is the overwhelming practice.[9] The Ghuman et al[6] experience in KwaZulu-Natal can be chalked up to the lesser, more pessimistic, side of the ledger.

The findings of Ghuman et al[6] reflect yet another scenario in the confrontation of physical Nature with human nature in the course of man's evolution. To fend off the ravages of a disaster of physical Nature (in this case a virulent new virus), an extreme or radical action often provides the best escape, with those taking the middle ground more likely to perish. Human nature, however, eschews the extreme and "unnatural." Men and women have been known, however, to move from Nature's way to an "artificial" mode of behaviour in a persistent and sustained manner. An example is the adoption of footwear. Through evolution – and even among rural agrarian and tribal populations of today – people travel barefoot on the warm soils of the tropics. Creation of the hard floors, sidewalks and paved streets of civilized habitats, and migration to colder climes outside the tropics, however, favoured the cultural adaptation of wearing sandals, shoes or boots. Most of mankind adopted an *unnatural* practice in an apparently sustained manner. In theory, exclusive breast-feeding could be adopted as the dominant cultural practice, as well. But, even within the footwear analogy, we have a mixed practice. We pass eight hours per day – during sleep – with our feet bare. And even in the waking and walking day, devout Muslims will leave their shoes in the vestibule of the mosque five times a day as they enter for prayers, while traditional Japanese housewives will walk the floors of their own homes unshod. Just as we have only partially overcome the natural way of walking barefoot, women's behaviour in survey after survey shows us that they only *partially* move away from mixed feeding of young infants *toward* the ideal of exclusivity.[10]

The emergence of the HIV has been physical Nature's challenge to humanity. The prescribed responses to feeding the infant of an infected mother – both adding milk powder and sterile water to a bottle, and not feeding any other substances than breast milk – are extreme and unfamiliar behaviours; they fly in the face of established cultural practices, and hence to human nature. Technology and educational campaigns offer opportunities to empower women to adopt and maintain these extreme prescriptions, but an array of factors from HIV stigma to resource poverty to basic social conformity combine to push us toward a regression to the modal format, i.e. mixed feeding. The bottom line from the Ghuman et al[6] findings should probably go beyond the question of why the women do not show the *appropriate* feeding behaviour to other important queries. The further questions include: How do we reduce the stigma and encourage diagnosis of HIV status? How do we make antiretroviral regimens safe, affordable and accessible in the poorest communities? And ultimately, how do we make the adoption of HIV prevention measures a universal practice?

In sum, the solution framework proposed by Ghuman et al[6] confirms our quixotic penchant for tilting at the windmill of adherence to exclusive breast-feeding. Rather than relying on a single champion on the battlefield against MTCT, a broad phalanx of actors, taking actions backed by evidence of efficacy, will finally shore up the weaknesses of human nature in confronting the passage of the HIV to the generation being born daily in KwaZulu-Natal and across sub-Saharan Africa.

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