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BREASTFEEDING AND INFANT CARE IN THE CONTEXT OF HIV/AIDS

Linda Richter
School of Psychology
University of Natal
Pietermaritzburg
Email: richterl@psy.unp.ac.za

Dev Griesel
CSD Unit for the Study of Child Development
Faculty of Social Science
University of Natal
Pietermaritzburg

INTRODUCTION.

In many parts of the world, but especially in resource-poor countries, the HIV-epidemic is spreading most rapidly amongst young women of child-bearing age (Abdool Karim, Abdool Karim, Singh, Short & Ngxongo, 1992). More than 90% of HIV-1 infection in children occurs by vertical transmission, thus infection in women poses the major risk of infection for children. The estimated rate of vertical transmission varies, with the lowest rates being reported in Europe (15-20%) and the highest rates in Africa (25-35%) (Newell & Gibb, 1995; Bobat, Coovadia, Coutsoudis & Moodley, 1996). In itself, the relationship between maternal infection and child vulnerability is fused into the gendered discourse about HIV/AIDS prevention, in which women are constructed and targeted as agents of both cause and potential modification of transmission (Grosz, 1994). The current dilemmas about feeding guidelines in the context of vertical transmission risk relate also to this fusion and are profoundly enacted around the matter of choice of feeding methods alloted to women in current HIV infant feeding policy .

By the mid-1980s case reports and research findings had begun to include breastfeeding in what is now understood to be multifaceted processes leading to HIV vertical transmission; processes that include interactions between maternal, virologic, obstetric, fetal and infant factors. There is currently considerable debate concerning the vertical transmission risk attributable to breastfeeding, with wide variation between rates reported in developed and developing countries (Gray, McIntyre & Lyons, 1996; Bobat, Moodley, Coutsoudis & Coovadia, 1997; Kreiss, 1997). A review from the AIDS

Division of the National Institutes of Health concluded that most vertical transmission occurs around the intrapartum or very late prenatal period, and that infection during this period accounts for approximately two thirds of vertical transmission. About one third of vertical transmission of infection is attributable to breastfeeding (Fowler, 1997). Some of the major parameters influencing the breastfeeding transmission rate are the stage of maternal infection and the duration of breastfeeding. Acute maternal infection and breastfeeding duration beyond a year are both reported to be independently associated with a two-fold increase in transmission risk (Kreiss, 1997). However, transmission is undoubtedly also influenced by a number of intrinsic infant factors including the maturity of the child's immune system (Stiehm, 1996).

Breastfeeding thus poses a significant risk to infants of HIV-positive women and potentially also to infants of women who live in high rate HIV areas and who do not know their HIV serostatus (Tess, Rodrigues, Newell, Dunn & Lago, 1998). As early as the late-1980's, international and professional agencies were advising HIV-positive women in developed countries against breastfeeding to avoid postnatal transmission to a child who may not yet be infected (Committee on Paediatric AIDS, 1995). In contrast, both the World Health Organization (WHO) and the United Nations Children Fund (UNICEF) continued to strongly urge women, including HIV-positive women, to continue breastfeeding in developing countries, where infectious diseases and malnutrition are the main cause of infant deaths and infant mortality is high. The benefits of breastfeeding in the latter circumstances were judged to outweigh the risks of vertical transmission. More precise estimates of the risks and benefits of breastfeeding in contexts with varying infant mortality rates are beginning to be generated (Nagelkerke, Moses, Embree, Jenniskens & Plummer, 1995).

THE TURNING POINT.

The American-French study number 076 of the AIDS Clinical Trials Group demonstrated that zidovudine given orally during the prepartum period, intravenously during the intrapartum period and orally for six weeks to formula fed infants led to a marked reduction (25.5% to 8.3%) in the HIV vertical transmission rate (Connor, Sperling, Gerber et al, 1994). In 1998, a USA Centers for Disease Control and Prevention study in Thailand reported a 51% reduction in HIV vertical transmission following shorter course zidovudine given orally from 36 weeks gestation and intensively during delivery to subsequently formula fed infants. The results of these studies have increased ambivalence about breastfeeding in the context of HIV/AIDS. In conjunction with other emerging interventions it is now anticipated that perinatal transmission can be reduced to around 2% (Bryson, 1996). The impression should not be created that the book is closed; many questions remain unanswered, including the possibility of long-term negative effects of exposure to zidovudine for both mother and infant (Newell & Gibb, 1995). However, with marked reductions in pre- and intra-partum transmission, breastfeeding will become the major mechanism for vertical transmission. It is not clear to what extent these projections apply to or should now determine practice in developing countries. The efficacy of the ACTG 076 or "Thailand" regimens have not been demonstrated in environments with high baseline levels of breastfeeding, such as in southern Africa, nor is it certain that such regimens are affordable or feasible in developing country health care systems.

Up until early 1998, there had been a general consensus (UN Joint Programme on AIDS, 1996), against the backdrop of "breast is best", that breastfeeding should continue to be encouraged in HIV-infected women in areas where the primary cause of infant deaths are infectious diseases and malnutrition. Further, this recommendation should hold until sufficient and safe quantities of infant formula are available, and for as long as infant mortality associated with HIV infection acquired through breastfeeding is estimated to be lower than the mortality associated with infectious and other diseases against which breastfeeding is protective (Popkin, Lasky, Litvin, Spicer & Yanamoto, 1986; Dunn, Newell, Ades & Peckham, 1992; Goldfarb, 1993). Where resources are not a major consideration, the recommendation to HIV-positive women is to avoid breastfeeding (Ruff, 1994; Thorne et al, 1995). When clinical recommendations are made on the basis of resource presumptions, it becomes imperative to thoroughly investigate issues of affordability and efficiency in health systems management.

A dramatic change in this position on the 27th April 1998 when UNICEF, WHO and UNAIDS announced a consensual approach to infant feeding and HIV. In the announcement, UNAIDS and its co-sponsors expressed their support for alternatives to breastfeeding for infants born to HIV-positive women. The guidelines offered by the agencies stress the importance of protecting, promoting and supporting breastfeeding as the best method of feeding for infants whose mothers are HIV-negative or who do not know their HIV status. The statement emphasises the need to support HIV-positive mothers in their right to choose an infant feeding method appropriate to their needs. UNAIDS encourages pregnant women to be tested and provided with as much information as possible on the relative risks of breastfeeding to enable them to decide for themselves whether to breastfeed or not. It asserts that those mothers who decide not to breastfeed their children must be ensured access to sufficient quantities of nutritionally adequate breastmilk substitutes. There was also agreement that there is an urgent need for the resources and information required to enable women to make appropriate choices to be put in place universally. In addition to the key recommendations of increasing access to alternatives to breastfeeding for HIV-positive women, the new HIV infant feeding guidelines emphasise the need to improve access to voluntary and confidential HIV counselling and testing, particularly for pregnant women, as well as proper infant feeding counselling.

ACCESS TO HEALTH RESOURCES BY PREGNANT WOMEN.

How to advise mothers infected with HIV in developing countries about breastfeeding is a critical issue and, what has been called, "a desperate dilemma" (Pillay, 1996) and "the ultimate paradox" (Riordan, 1993). This advice depends crucially on whether zidovudine is available to pregnant women through routine health care, and whether the resources to support the implementation of informed choices about feeding are provided, including testing, protection, counselling, and affordable access to formula feeds. Most southern African countries have made it clear that they cannot afford antiretroviral therapy to prevent mother-to-child transmission, and in September 1998 the South African Minister of Health announced her decision not to make drug therapy available through the public health services. In her view, the money required for antiretroviral treatment of pregnant women is better spent on preventive interventions.

Several groups have protested the South African decision, so the situation in the country remains uncertain. In the absence of antiretroviral therapy in resource-poor countries, some alternative recommendations are being explored. For example, limited breastfeeding during the first few months of life (Leroy, Newell, Dabis, Peckham, Van de Perre et al, 1998), heat treatment of expressed breastmilk, animal milks and home-made alternatives (Latham, 1998).

But much is at stake internationally, with sure repercussions for women and children in all parts of the world. At a time when concerted institutional efforts are resulting in increased breastfeeding rates in many developed countries, including the United States (Ryan, 1997), the 1991 Code of Marketing of Breast-Milk Substitutes has been challenged in 1998 at the World Health Assembly. It is argued that the code is inappropriate in the era of HIV/AIDS, because it was promulgated when no one could forsee that breastmilk would transmit a deadly virus. Not that breastmilk has ever been unconditionally devoid of risk for infants; a large number of damaging toxins, including DDT, and other infectious conditions (tuberculosis and hepatitis, for example) are transmitted through breastmilk from mother to child (Goldfarb, 1993).

For many women in resource poor countries there is currently no alternative to breastfeeding, regardless of HIV status, simply because of the cost of alternative feeds and the lack of clean water to prepare formula feeds. In addition, African women are likely to be stigmatised for not breastfeeding and, in contexts of high HIV infection rates, formula feeding may become a social marker for infection. Rather than being led by a Western agenda, there has been a call from Southern African countries for a focus on interventions which would make breastfeeding safer (Pillay, 1996). This would require that variations in breastfeeding practices be included in pharmacologic intervention trials.

In this paper, we do not enter the debate with new data on the relative risks of breast and formula feeding for infants in the context of HIV/AIDS in resource poor countries. No doubt this debate will continue for some time yet, and will take its cue not only from emerging trial data, but also from international and local financial and policy developments. Instead, we want to reflect briefly on what appear to be entrenched opinions on both sides of the feeding debate, opinions that are as much ideologically as rationally generated, and that are so forceful that they may deflect careful consideration of all the factors involved in a particular situation. Secondly, we want to caution, through the presentation of an exemplary study in Soweto, that changing infant feeding patterns may be just as complex an undertaking as attempting to change sexual and relationship behaviours. Ideas about effective prevention of HIV transmission, whether sexual or vertical, have an idealised but illusory simplicity that, in the case of infant feeding patterns, has yet to be appreciated.

IDEALISATIONS OF THE RISKS AND BENEFITS OF BREASTFEEDING.

The issues around infant feeding in the context of AIDS are being dichotomised into fundamental injunctions about what will ultimately save or condemn the children of HIV positive women - depending on where you stand, either breastmilk or its substitutes are capable of either effect. The epidemic of HIV infection and disease in women and

children represents a complex biological and social platform upon which public health challenges are being debated. Advocates have variously argued that if African mothers stopped breastfeeding, the death rate in under-five-year-old children could more than double. On the other hand, breastfeeding represents the most critical route of infection to young children in the era of antiretroviral drugs. As Riordan asks, "Is it possible that human milk, a perfect nutriment and protective vaccine for the vulnerable human infant might also be able to confer the seeeds of destruction upon the very child it nourishes and protects" (1993: 3). Because it is so obvious, one might profitably draw an analogy between these contrasting positions and the object relations theory of Melanie Klein.

In this theory, the maternal body and body parts, particularly the breasts, express symbolically for the infant the forces of both preservation and destruction. Meaning is generated not in or by the breasts, but through the emotional experiences Klein called drives, which are imparted to the body. And for Klein, the central conflict in human experience is between love and hate which, for the infant, are object-related with an unmediated connection to social reality. The experience of pleasure and pain in relation to the same object arouses in the infant primitive anxieties which are overcome through defensive splitting - the partitioning of good and evil between the good breast and the bad breast. Dichotomised benevolence and malevolence are, in Klein's terms, universal introjected images of the fundamental organizations of object relations and emotional life (Greenberg & Mitchell, 1983).

From one perspective, the "introjected debate" between the binary qualities of breastfeeding in the context of HIV/AIDS is one of a number of a defensive cognitive responses which are apparent in HIV/AIDS discourses. Another example is the over- and under-inclusive thinking that can be discerned in risk attributions applied to the self and others (Richter & Swart-Kruger, 1995; Swart-Kruger & Richter, 1997). These conceptual distortions appear as recurring narratives, aroused by the anxiety accompanying confrontations with perplexing and life threatening phenomena - of which HIV/AIDS is prototypical. As scientists, our discourses are similarly partitioned to produce patterns of thinking about HIV/AIDS that may distort rather than serve public health considerations.

For Klein's infant, the internally generated fantasies, the struggle between love and hate, good and bad, do not include the child's experiences or the actual behaviour of the parents - that is, it is not grounded in reality. Similarly, there is a sense in which the HIV/AIDS infant feeding debate is occurring, at least on one level, with only tangential relation to the behaviour and experience of those people directly affected by the issues. There are, as yet, no papers published from southern Africa which explore the implications of the new policy with health care providers, or with women and their families.

However, it is also true that breastfeeding has always been subjected to dichotomised reasoning by Western medicine. The history of writing, research and analysis about breastfeeding has posed breastfeeding against bottlefeeding, good mothering against bad, and has ignored the patterned interface of experience and practice that lies between these idealised opposites (Pelto, 1981). Breastfeeding has been seen to be a

metaphorical on-off switch - *does or did a mother breastfeed, and for how long.* Breastfeeding, thus framed as a distinct and circumscribed behaviour, is extracted from its context in the care of infants, and from its immediate and long-term motivational determinants. In this sense, breastfeeding is construed in the same way that the body and bodily functioning has been constituted by medical discourse and practice - as a set of constraining and stereotypical dualisms (Lupton, 1994). Dichotomous attributes have particularly pervaded rhetoric about HIV/AIDS - the dichotomies of self-other, rational-irrational, moral-immoral, active-passive, and so on.

INFANT FEEDING IN THE CONTEXT OF CHILD CARE.

Infant feeding, and especially breastfeeding, is part of the system of child care practices in many developing countries, especially in Africa. A study of infant feeding in Soweto, South Africa, will be described in an attempt to challenge a simplified and de-contextualised view of infant feeding in general, and breastfeeding in particular. We will attempt to make evident the multiple nature of infant feeding, by situating it conjunctively with personal and social motivation and meanings.

As indicated earlier, breastfeeding is frequently construed in a dichotomous way. Women are assumed to either breast- or bottle-feed their babies and questions about breastfeeding are correspondingly phrased in a closed way. Moreover, information about breastfeeding practices and duration are often obtained retrospectively, and the attributed significance of breastfeeding for caregivers is largely limited to child nutrition and growth (World Health Organization, 1981; Notzon, 1984). This view has persisted despite the manifest place of breastfeeding within child care holistically, as well as historical and cultural reports suggesting a multiplicity of practices around the feeding of young infants and the significance of the breast and breastfeeding in epitomising the dependency relationship between caregiver and vulnerable infant (Gelfand, 1971; Kusin, Kardjati & Van Stellenbergen, 1985; Fildes, 1986; Dettwyler & Fishman, 1992). As Mabila (1996) concludes from work in Tanzania, breastfeeding is not just about nutrition - it is a process, an act of culture and a social experience.

The investigation described was primarily prompted by an observation, made while training medical students in primary paediatric care in Soweto clinics, of occurrences of what appeared to be a form of interactional complicity between health care providers and mothers of young children. Both parties appeared content to maintain the impression that women were complying with the instruction to exclusively breastfeed their babies for the first six months of life according to international guidelines and local prescriptions - even when the evidence of bottles, formula tins, and fruit juice among maternal paraphenalia clearly contradicted this impression. Health care providers frequently phrased questions about feeding in a way that inhibited mothers from revealing their customary daily practices and thereby exempting them conjointly from challenging the exclusive breastfeeding injunction.

The study arose essentially from a curiosity about what and how women of young children fed their infants and why. An ethnographic mapping methodology was adopted to explore the issue of infant feeding and infant care, assuming from the outset that all caregiver-child exchanges revolve around a nexus of infant care that is rooted in

cultural, social and psychological experience (Pelto, 1984; Super & Harkness, 1987; Richter, 1997). A great deal of research has been conducted in the West on the topic of parental beliefs, their relations to practices and their combined impact on children's wellbeing (Whiting, 1974; Sigel, 1985). Three rounds of interviews and group discussions were held to assist with the development of a semi-structured questionnaire for data collection. In the first phase, conversations between the investigators[1] were held with familiar informants, including paediatricians, clinic staff, child care workers, and mothers in the target group, about child care in a general sense and feeding in particular, to establish the broad parameters of the subject. The second round of interviews were held with 30 Sowetan residents willing to spend time talking about the care and feeding of young infants to uncover *emic* perspectives on caregiving, and the terminology used to make distinctions among varyingly situated beliefs and practices (Jahoda, 1995). In the third phase, the major headings of a first draft interview schedule were discussed with 27 women who fell into the target group of the study - mothers of infants under four months of age - and covered a broad range of infant feeding and care practices, perceptions of infant crying, cultural beliefs about child care, and understandings and management of common infant problems.

On the basis of the mapping procedure, a semi-structured interview format was refined. This was completed with 100 women attending 7 Soweto clinics for their babies to receive their DPT and TOPV immunizations at around three months of age. The investigator who conducted the interviews was well trained in open-ended interviewing and went to great lengths to establish the interview as a circumstance for acquiring information unconstrained by pre-determined views. In order to focus the interview on practices rather than abstractions, the interview was referenced around the care of this particular child. The infants fell in a narrow age range between 8 and 17 weeks of age, but their mothers varied considerably in age and parity. The women interviewed came from a variety of social situations and cultural backgrounds, on which basis it could be claimed that their views and actions represented a good part of the range of child care practices for very young children in place in Soweto at the time.

The study has been described in detail in another report (Richter, 1994), and only results salient to the arguments constructed in this paper are summarised here. Firstly, as is generally reported in Africa, including South Africa, a very high number (94%) of women initiated breastfeeding from birth. All these women had answered in the affirmative to the question, *Are you breastfeeding your baby?*, and therefore would likely be classified as breast- rather than bottle-feeding mothers. However, when the question was elaborated to include other foods and drinks, it was found that 92% of infants were also receiving water and 77% were receiving breastmilk *together* with an infant formula milk. Nearly half of all babies in this age range were also receiving a gruel made from a staple food, and smaller numbers of children were being fed vegetables and commercial baby foods and porridges as well. Only 8% of this sample of women were exclusively breastfeeding their infants, a figure corresponding to other recent reports from southern Africa (Pillay, 1996). A similarly wide variety of modes of

[1] LM Richter and Grace Moshoeshoe

feeding were described, including bottles, cups, teaspoons, as well as caregivers' fingers and cupped palms. Bottles might contain water, tea, juice, gruel or milk formulae, and infants were fed innumerable combinations of some or all of these foods and methods. What these data show is that breastfeeding of young infants, even those in the narrow age range between two and four months of age, cannot be considered in binary terms - such an assumption is undermined by the pluralism of practices described briefly here.

Feeding infants is a justifiable activity - what is fed to babies, how and when, can be explicated by mothers of young infants (Antaki, 1981). On a general level, child care practices are referred continually as taken-for-granted cultural conceptions - "it is good for children"; "my mother suggested I do it"; "it worked with my other children"; "babies need it", and so on - illustrating the extent to which individual thinking and behaviour expresses the network of mental representations embodied in socially inherited institutions, practices and modes of discourse (Shweder, 1995). At a specific level, breastfeeding was described to be responsive mainly to infant cues - to crying primarily, but also to behaviours interpreted as signalling hunger, such as finger-sucking and rooting. Only 8% of women reported offering the breast in relation to cues beyond the infant - such as by time, because her breasts felt full or because it fitted into a care routine, such as when an infant awoke. Similarly, duration of breastfeeding episodes was predominantly determined by infant satiation or sleep. The conclusion that can be drawn from this is that breastfeeding is essentially an *interactional* phenomenon. Because breastfeeding is embedded in ongoing caregiver-child interactions, most women found perplexing any questions about how many times a day they breastfed their infant. Instead, babies are put to the breast many times a day, for varying lengths of time, and generally for the purpose of *nurturing*, and not only *feeding*, the baby.

The potential separability of the functions of breastfeeding from nutrition was derived from several sources of information. Non-breast feeds were given to babies for a variety of nutritional and health reasons that implicated a comprehensive conception of infant nutrition that extended beyond breastmilk. For example, most babies were given water in the first few days after birth, and the reasons for doing so related to cleansing the digestive system and quenching the baby's thirst. The major motive for introducing a formula milk into the infant's diet, as has been found internationally (Gussler & Briesemeister, 1980), was that the mother perceived her breastmilk to be insufficient to satisfy her child's hunger. In general, the infant's diet is explained by caregivers in terms broadly related to health, including concerns about growth, wellbeing, nutrition and the avoidance of illness. This paper is not the place to debate the maternal rationality of what has been called "the insufficient milk syndrome". However, data collected in this study indicate that women base their conclusion about breastmilk insufficiency mainly on infant crying[2] - again indicating the *interactional* nature of

[2] Some of the verbatim justifications offered by women for introducing formula milk included the following: *"She used to cry after suckling both breasts and I though she doesn't get filled. After having S-26 she doesn't cry much"; "Baby used to cry at night and during the day, and I told myself that this baby is crying because he does not get enough - so I introduced formula"; "Baby did not sleep well and would cry even after feeding, so I gave her some formula and it did help a lot".*

feeding and child care. However, dietary variability, the need to add vitamins and other supplements to the infant's diet, the requirement that babies should taste the community's staple foods, and the perceived necessity of a "full" diet for the child, all indicate that breastfeeding is perceived to play a part in infant feeding, but is not identical with infant nutrition in the minds of caregivers.

The notion that *breastfeeding is both less and more than infant nutrition*, is vividly illustrated by a comment made by one mother in this study who reported that she breastfed her baby - she said that she put her baby to the breast between formula feeds, mainly for comfort. It is also illustrated by an interpretation by Reissland & Burghart (1992) of the meaning of breastfeeding in South India: "*Children cry when they are hungry. By breastfeeding the baby and refilling the baby's stomach, the mother restores contentment to the child. Thus breastfeeding is both a means of nourishing the child and actively satisfying his/her desires. The mother's ability to satisfy her child's need depends on her perception of her ability to produce an abundant and regular supply of good quality milk. The measure of a woman's milk fullness is her ability to satisfy her baby. Hence the measure of a mother's capacity to lactate is bound up with her emotional relationship with her child and her moral sense of herself as a good mother*". In addition to other factors, breastfeeding also structures social relations in that the breastfed child has uncontested priority to the mother's care through access to the breast, and the breastfeeding relationship expresses the status of the child in the family as warranting devotion and care (Bohler & Ingstad, 1996).

The role of infant crying in maternal decisions about breastfeeding and childcare in general appears to have been largely overlooked in this field. For example, many major textbooks on breastfeeding make no mention of maternal motivations to feed or to vary feeds in response to infant crying (Jelliffe & Jellifee, 1988). Experimental, observational and diary studies of infant crying in the West and in some developing countries describe a natural history pattern of crying building up from about two weeks after birth and reaching a peak around 6 weeks post-partum, after which it gradually declines (Hopkins & von Wulfften Palthe, 1987; St James Roberts, Bowyer, Varghese & Sawdon, 1994; St James Roberts, Conroy & Hurry, 1997). In the first three months of life, babies appear to cry between one and three hours a day, depending on maternal responsiveness and management. This crying is concentrated in the late afternoon and evening. Apart from speculations about gastrointestinal immaturity, one of the primary explanations for this pattern of early crying is thought to concern adaptation of the infant's circadian rhythms to a day-night cycle of activities (Weissbluth & Weissbluth, 1993). Crying is a domain of major concern and anxiety for caregivers; similarly amongst Sowetan mothers, who expressed acute distress at infant crying. In this study, babies were reported to reach a peak of vigorous crying around 5-6 weeks of age, which was also the median age for the reported introduction of formula feeds and gruel. Decisions about infant feeding would thus appear to be sensitively responsive to signals about infant discomfort, and supplementary feeding may be prompted, at least in some cases, by increases in the persistence and vigor of infant crying between the second and third month after birth. This has given rise to the suggestion that mothers need information about infant crying patterns to support breastfeeding maintenance and to delay premature supplementation.

Non-nutritive sucking is an important component of pacification and one of the earliest expressions of emotional self-regulation in infants (Dodge, 1989). It is also thought to play a role in growth through stimulation of the oral cavity leading to heightened production of food absorption hormones, as well as in early attention and learning through state regulation (Field, 1993). Pacification through non-nutritive sucking is the primary caregiver intervention for early infant crying. In non-breastfeeding societies, artificial pacifiers (dummies) have been introduced to enable the infant to engage in self-calming through sucking - whereas in breastfeeding societies, infant consolation and distress reduction occur through suckling at the breast (Fox & Schaefer, 1996). Neither carrying, rocking, nor other forms of maternal responsiveness have been shown to be as effective in experimental studies at pacificying crying infants as non-nutritive sucking (Walker & Menahem, 1994). Interventions aimed at breastfeeding avoidance and early termination in breastfeeding societies, as occur for example in southern Africa, may need to include the introduction of artifical pacifiers to provide infants with opportunities for non-nutritive sucking. Currently, very few African women use dummies (only 9% in the present study), and 32% of Sowetan women attributed painful "winds in the baby's stomach" to sucking a dummy or an empty bottle. Consideration would also have to be given to the potential for infection transmission and contamination of widespread dummy use in resource-poor environments; as well as to the possible negative effects on population levels of breastfeeding duration with widespread pacifier adoption (Victora, Behague, Barros, Olinto & Weiderpass, 1997).

Issues around infant crying have been masked in African cultures for several reasons. This is chiefly because a highly responsive pattern of child care is culturally entrenched and manifest in practices known to reduce infant arousal, such as close body contact between caregiver and child, rhythmical movements associated with infant carrying and prompt caregiver responsiveness to infant distress (Lozoff & Brittenham, 1979). Also, crying infants receive timeous attention and are comforted mainly by being put to the breast. Lastly, infant crying is controlled through the common practice of fairly routine administration of over-the-counter remedies, both traditional and contemporary, for crying, cramps and wind. For example, well over two thirds of the mothers in the current study regularly used *Muti Wenyoni*[3], Panado Syrup, gripe water and a number of Lennon's Remedies (including Haarlemensis and Stuipdruppels), to ease infant distress and control crying. The effect of most of these substances is to induce sleep because of the high concentrations of alcohol they contain. Nonetheless, young African babies, like other infants, cry in distressing and sometimes inexplicable ways in the first three months of life, and health care advice to avoid breastfeeding will need to include suggestions for alternative caregiver responses to infant crying.

BREASTFEEDING AND HIV/AIDS PREVENTION.

In this paper we have attempted to dispel a simplistic conception of breastfeeding as a behaviour capable of being partitioned and extracted from its cultural, social and psychological context. We have demonstrated the ways in which breastfeeding beliefs

[3] An antacid advertised to clean the stomach and make a child healthy and energetic. It is also implied that it will deter evil influences from harming the child.

and practices emerge from cultural systems of child care, how they are embedded in the ongoing interaction between mother and child, the manner in which they define the social status of the infant within the family, and how they impart emotional meaning to the care of the child.

The motivation, skill, consistency and responsiveness of caregivers are important aspects of child care and are related to infant survival, health and development. From this it can be argued that choices around feeding are embedded in child care and are motivated by heightened states of concern for the infant's well-being (Fernandez & Guthrie, 1984). One purpose of this paper has been to illustrate the manner in which health professionals have in the past simplified and misunderstood breastfeeding, and its place in infant care. As Popkin et al put it, "infant feeding is not simply a biological process in response to the metabolic demands of the infant. It is also a complex web of behaviours involving the actions and reactions of other people" (1986: 2). Much of the infant feeding literature creates the impression that breast milk is a product comparable to other commercial commodities and that breastfeeding is therefore essentially discretionary and subject to regulation according to health promotional direction.

Much of the early HIV/AIDS sexual transmission prevention literature was similarly credulous in its approach to behaviours targeted for change - abstinence, monogamy and condom use. As the epidemic matured and our knowledge and understanding grew, we have had to acknowledge and accommodate the complexity of sexual behaviour and confront the way in which it is rooted in social history and relationships. The design of interventions to reduce risk of transmission cannot be simplistically derived from objectified pathways of cause and effect. It is important that this insight be applied to breastfeeding guidelines to reduce HIV transmission from the outset, especially in predominantly breastfeeding societies in southern Africa. Experience has shown that most behaviours that are deeply rooted in culture and history, and contextualised within contemporary social relations, are more difficult to change than abstracted injunctions would suggest. As has been learnt about sexual behaviour, we need to find ways to incorporate cultural and social knowledge and experience into health promotion, including advice not to breastfeed or advice to terminate breastfeeding after a shorter than usual period.

It is also important that we regularly monitor mothers' reception of feeding and health care messages, and that this information should be used as a major feedback mechanism. Women initiate and continue breastfeeding, and introduce supplementary foods and drinks, for reasons which are sound to them, even if they lack a scientific basis or are contrary to medical opinion (Fernandez & Guthrie, 1984; King & Ashworth, 1987). From several countries in Africa, including the conclusions from the present study, the most serious problem with the WHO/UNICEF early feeding recommendations in much of Africa is the lack of credibility accorded to exclusive breastfeeding (Davies Adetugbo, 1997). When local experience deviates from inapplicable health care counsel, and is driven underground, it becomes even more difficult to influence everyday practices to support health. An example from the current study serves to illustrate the form that resistance to health care advice can take when mothers feel they know better, or when health care admonitions are regarded as

inappropriate or inapplicable to the circumstances of the people to whom they are directed. One mother reported that "sometimes when the baby is constipated and I do not have medication, I douche the baby (give the baby an enema). One nursing sister said that I must not do that because I will kill the baby. But I won't stop because when the baby is constipated he won't eat nor sleep, and the nursing sister won't be there. I will be alone with the baby".

Similarly, many generalised guidelines, even those that pertain to exclusive breastfeeding sometimes suffer distortion as they make their way through the health care system and are interpreted and adapted by community health care providers. For example, most women who were giving water as well as milk formulae and additional foods to their infants reported that they had been advised to do so, including by health care staff. Similarly, advice given to women can be taken up in inconsistent and sometimes contradictory ways as illustrated by the fact that several mothers in this study reported giving a version of oral rehydration solution (water, sugar and salt) to infants on a daily basis to prevent diarrhoea.

The complexity of influencing behaviours saturated with meaning and entrenched in social relations, such as breastfeeding, should not be underestimated. We know little about how people acquire knowledge through cultural and social experience and how practices come to be instantiated in groups and among individuals who share cultural beliefs. Traditional knowledge is variously re-invented, recalled and re-interpreted (Reissland & Burghart, 1988). And it is the interface between customary practices and recommendations from the health care establishment that has the most significant consequences for public health.

In the last two years, reports from Europe and the United States have begun to be published which indicate an increased willingness by women, who are aware of their HIV status, to adopt interventions to reduce transmission to their infants, including not breastfeeding (Thorne, Newell, Dunn & Peckham, 1995; Gibb et al, 1997). From Africa, there are reports of women stating that they would not breastfeed if they knew they were HIV-positive (Ighogboja, Olarewaju, Odumodu & Okuonghae, 1995). The current UNAIDS infant feeding guidelines revolve around informed choice by mothers based on knowledge of their HIV serostatus and on their informed understanding of the risks and benefits of different infant feeding options. It was formulated against the background of research into the effectiveness of antiretroviral drugs, and it is based on the assumption that poor women can be provided with formula feeds if they so choose, without significant adverse individual or community level consequences.

As this paper has attempted to show, this choice should not be offered nor based on a reductionist conception of infant feeding divorced from its role in infant care. Apart from the issues of resources, guidelines generated without understanding of the determinants, context and role of infant feeding in child care are likely to lead to guilt and confusion in women who are apprised of their responsibility to prevent HIV transmission to their infants, but who are left uninformed and unsupported about how they may realistically protect their infants in a way which is intelligible within their cultural experience and social expectations.

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