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A reply to Bøhler

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My response to Bøhler's contention that 'Universal recommendations for some weaning practices do make sense' is presented in two parts. The first focuses on the more detailed criticisms of the article 'A Biocultural Investigation of the Weanling's Dilemma in Kathmandu, Nepal: Do universal recommendations for weaning practices make sense?' (Moffat, 2001), the second on the larger issue of biomedical approaches to maternal–child health education.

Bøhler argues that it would be unlikely to find a statistically significant difference between exclusively and partially breast-fed children because North American, exclusively breast-fed children, on average, grow more slowly than artificially fed children (Dewey *et al*., 1993). It should be noted, however, that the majority of partially breast-fed children in the Nepali sample were not formula-fed; rather most of them were fed breast milk supplemented with weaning cereals, animal milk (cow and water buffalo) and soft foods such as rice and vegetable stews (Moffat, 2001, Fig. 2). The use of bottles and formula for this group of peri-urban mothers and children is still rare, and certainly there were no infants who were predominately formula-fed. Thus, to argue that the lack of difference in growth between the two groups was due to formula feeding for the partially breast-fed group is unfounded here.

Bøhler is correct in pointing out that the criteria for defining diarrhoea were not spelt out in the article, and I therefore briefly lay them out here. Mothers were asked if their child was currently experiencing diarrhoea at the time of survey (following WHO, 1991) yielding point prevalence estimates. Diarrhoea is a common occurrence for children in Nepal and it was reasoned that ascertaining current diarrhoeal status could minimize under-reporting from recall error. This, moreover, enabled the interviewer to further question the mother regarding the frequency and consistency of the child's stool. While clinical definitions of diarrhoea vary from one survey to another, a generally accepted definition used in this study is three or more stools in a 24-hour period or one liquid or explosive stool (Gracey & Rowland, 1991). In many surveys, the mother's definition of diarrhoea is followed because the mother is considered to be the most competent judge of departures from normal (Rowland, 1983). It should not be assumed, however, that the mother's definition of diarrhoea matches the epidemiological one. Thus, in this study if the mother stated that the child had diarrhoea, we asked her to report the frequency of the stools per day and to describe the consistency of the child's stool (like water or like yogurt; thin or thick). With the exception of six cases out of a total of 283, the mothers' definitions

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of diarrhoea matched the epidemiological one stated above. In those six cases where the definitions were incompatible, they were not counted in analysis as diarrhoea.

Bøhler notes that the prevalence of diarrhoea for the children in this sample is very high. While it is possible that this is due to over-reporting, it is also likely that this peri-urban group of children is suffering from a heavy gastrointestinal disease load. Given the environmental conditions in which these children live, it is not a surprising finding.

I admit that finding negative evidence (i.e. no difference in the prevalence of diarrhoeal infections or anthropometrics between exclusively and partially breast-fed infants) for a small sample size of infants is not necessarily enough to refute the contention that exclusive breast-feeding for infants under 6 months of age is the best practice. It does, however, open the possibility that exclusive breast-feeding may not confer as big an advantage as many contend. As I point out in the discussion section, while many studies do show that exclusive breast-feeding promotes better growth, others do not (cf. Zumrawi, Diamond & Waterlow, 1987). The reason for variation in results may be that we are comparing infants living in very different socioeconomic, sociocultural and environmental settings. Where infants in peri-urban Nepal and Sudan, in the case of Zumrawi and colleagues' study, are almost universally breast-fed with most early supplementation consisting of weaning cereals and animal milk fed with a spoon and cup, studies such as Popkin and colleagues' in the Philippines (1990) and Martines and colleagues' (1994) in Brazil are set in places where formula-feeding with bottles may be more common. It is possible that artificial feeding, with all the hazards of preparing formula and bottles, is more apt to promote conditions for gastrointestinal infections than supplementation with other types of foods.

The issue here is not whether infants should be breast-fed or formula-fed, but rather the timing of the weanling's dilemma. At a certain point, infants must eat and drink foods other than breast milk. Most agree that after 4–6 months of age infants cannot rely solely on breast milk to fulfil their nutritional requirements. As Popkin *et al*. (1990, p. 880) point out, however, in some cases that need may occur earlier: 'The need for supplemental foods almost certainly occurs before 5 to 6 months but could come as early as 3 to 4 months.' There are some who contend that infants could be exclusively breast-fed up till 9 months of age without compromising their nutritional well-being (Borrensen, 1995), but they are in the minority. Certainly, endeavouring to prevent increasingly mobile and curious infants from sampling household food would prove to be a challenge.

When one steps back from the anthropometric and epidemiological evidence and thinks more broadly about the implications of the public health approach that emerge from it, I believe that Bøhler's contention that 'universal recommendations for some weaning practices do make sense' is on even shakier ground. The domain of biomedicine penetrates very superficially into the lives of many mothers around the world who are living in conditions of poverty and environmental adversity. The majority, due mostly to lack of resources, do not visit health care workers except in the case of medical emergencies. Even in a peri-urban environment where one might think women would be exposed more to outside influences, most of their knowledge about child feeding and primary health care is learned from their mothers, aunts, sisters and friends. Thus, the reality is that even if we all agree that promoting

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exclusive breast-feeding to 4–6 months of age is important, it has little impact on child feeding practices on the ground.

More important than whether or not medical professionals can influence women in their practices, however, is the question of whether health promoters want to be concentrating all of this effort on telling women how they should or should not feed their infants and children. Maternal–child health education is focused almost completely on women as bearing sole responsibility for their children's survival. We act as if exclusive breast-feeding will be a panacea, although we know that many of these children who survive to 6 months of age will go on to have recurring infections throughout their childhood and many will even die from them. We know that this is due to environmental conditions that, in some small part, are influenced by mothers' behaviours, but for the most part are a product of global conditions of poverty as well as the politics of national and local governments. We expect these women to keep their children alive and even healthy in environmental conditions that most people living in affluent nations could not even begin to surmount. So perhaps the more valuable question here is not whether universal recommendations for weaning practices make sense (as a scientific inquiry) but rather whether they are even *relevant*.

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