

The FAMILY In Economic DEVELOPMENT

Policy Brief

SUPPLEMENTARY FEEDING IN EARLY INFANCY

Malaysian public health policymakers are concerned about infant feeding practices. For proper health and development, young infants need either breastmilk or a nutritionally adequate, safely prepared substitute. In Peninsular Malaysia, as in some other developing countries, breastfeeding declined steadily over recent decades (though this trend may have reversed in Malaysia in the mid-1970s, when at least breastfeeding initiation apparently increased). Even infants who are breastfed often receive supplementary foods well before the generally recommended age range of three to six months. Some supplements to (or substitutes for) breastmilk do not offer adequate nutrition and may be difficult for young infants to digest. In addition, all infants who receive supplementary feedings may be exposed to pathogens in their food and water supply, and weaned infants lack some or all of the immunological benefits of breastfeeding during a period of great vulnerability to infections.

A recent Rand study uses retrospective data from the Malaysian Family Life Survey to determine trends in supplementary feeding in early infancy through the mid-1970s and to identify inappropriate practices that public health policy might help remedy. The study concentrates on infants who were reported to have received foods or liquids other than breastmilk in the first three months of life on a daily basis. These infants are divided into two groups: "early weaners," defined as those who were breastfed less than three months (and perhaps not at all), and "mixed feeders," those who were breastfed three months or more. This division distinguishes whether other foods were used in early infancy as complete substitutes for breastmilk or as true supplements. The study uses a three-month cutoff because that is an age at which diarrheal disease typically becomes a concern and because it marks the beginning of the period in which supplementation is recommended by pediatricians and nutritionists.

Trends in the Timing of Supplementation

Malaysians apparently do not think in terms of "breast vs. bottle," and early supplementation of breastfeed-

ing is the norm. As in neighboring countries of Southeast Asia, exclusive breastfeeding in early infancy is rare. In the 1970s, only 5 percent of infants were exclusively breastfed until the age of three months.

Even in the 1950s, over 80 percent of the infants received supplementary foods by age three months; by the mid-1970s the number had risen to over 95 percent. The trend toward earlier supplementation did not reverse even when the initiation of breastfeeding rose slightly in the mid-1970s. In the 1970s, 25 percent of Malaysian infants had been weaned entirely by age 3 months (the "early weaners" in the study); the mixed feeders accounted for about 70 percent of the total.

Malaysia's ethnic groups differ in infant feeding practices. Breastfeeding is very common only among Malays, though the Chinese are slightly more likely to practice exclusive breastfeeding in early infancy. The Indians have always tended to start supplementary foods at an earlier age than either the Malays or the Chinese.

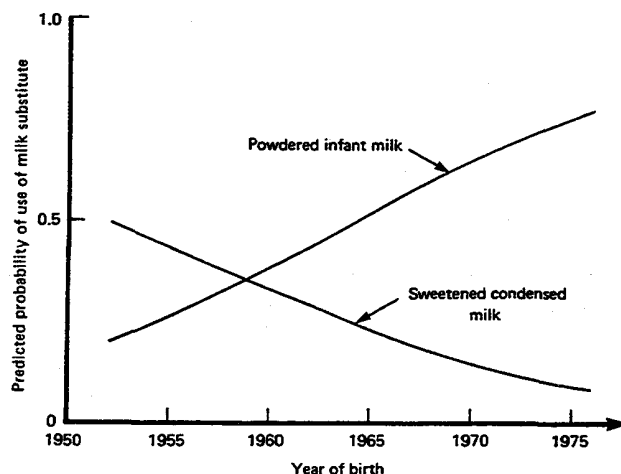


Fig. 1—Powdered formulas have steadily replaced sweetened condensed milk as the preferred substitute for breastmilk

Trends in the Choice of Breastmilk Substitute for Early Weaners

Recent decades have also witnessed changes in the types of supplementary foods first introduced to infants. Sweetened condensed milk (SCM), once a common supplement, has gradually been replaced by powdered infant milks (PIMs). Figure 1 shows this trend for early weaners, those infants for whom other foods completely substitute for breastmilk during at least part of their early infancy. From 1950 to 1977, the probability that an infant weaned before three months of age would receive SCM decreased from 50 percent to 7 percent while the probability of receiving PIM rose from 20 percent to 67 percent.

This substitution is probably a desirable trend. SCM contains unmodified cow's milk that is difficult for infants to digest. PIMs ("formulas") are typically modified to resemble human milk in nutrient composition and digestibility. However, both breastmilk substitutes can spread infections if mixed with contaminated water, and neither has the anti-infective properties of human milk.

The groups most likely still to use SCM in early infancy are poor, rural, and uneducated women—those whose children are already likely to be at greatest risk to malnutrition and infection. Other things being equal, the Chinese are almost two and a half times more likely to use SCM than are Malays or Indians, both for infants weaned early and for those on mixed feeding.

Trends in the Choice of Supplement for Mixed Feeders

Mixed feeders are infants who are breastfed past early infancy but who also receive daily supplementation beginning in the first three months of life. This feeding practice is more common than early weaning among mothers who are poor, uneducated, or in rural areas. Mixed feeders receive a wider variety of first supplementary foods than do early weaners. In addition to PIM and SCM, common first supplementary foods for mixed feeders include water, cereals, and tonics (bottled sugar waters, sometimes flavored with herbs).

For mixed feeders, as for early weaners, the use of SCM has declined since 1950 while the use of PIM has increased. The use of cereals and tonics has also increased for mixed feeders, though to a lesser extent. Both are associated with longer duration of breastfeeding, so they are probably not being given in

too great quantities. However, the increased use of cereals raises concerns that they may be introduced to infants who are too young to digest them easily and that they may be prepared with contaminated water.

Malaysia's ethnic groups vary markedly in their preferred first supplementary food for mixed feeders. As Figure 2 shows, Malays often use plain water, whereas the Chinese use SCM and the Indians use sugar water tonics. The high use of tonics among Indians may be a source of concern, especially since both the initiation and duration of breastfeeding are falling among this group. Tonics are relatively expensive and may replace more nutritious food in the infant's or family's diet.

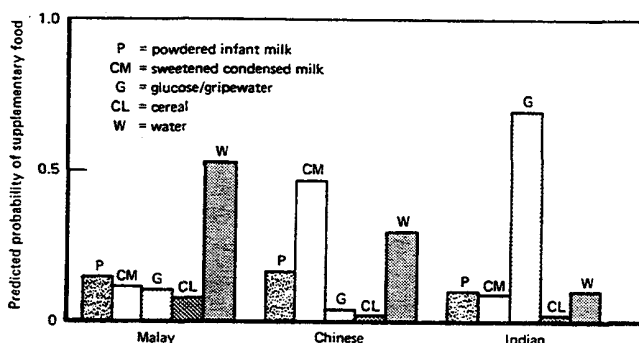


Fig. 2—The preferred first supplementary food for mixed feeders varies by ethnic group

Implications for Nutrition Policy

The study shows that Malaysia's ethnic groups—Malays, Indians, and Chinese—differ markedly in infant feeding practices, including not only breastfeeding but also the timing and type of supplementation. As a result, public health policies aimed at improving infant feeding practices in Malaysia will have to be diverse and targeted at the different ethnic groups. For example, breastfeeding should be promoted among Indians, for whom infant mortality rates have fallen more slowly than those of other ethnic groups. The National Breastfeeding Campaign that the Malaysian government and voluntary organizations began in 1976 should help in this regard. Malays, by contrast, who still usually breastfeed, may need more information about safe weaning practices for older infants. In general, since exclusive breastfeeding is rare among all groups, health education programs should focus on providing information about the preparation of supplementary foods and the proper timing of their introduction.

This *Policy Brief* highlights the major policy-relevant findings of a research project conducted within The Rand Corporation's Family in Economic Development Center. The research summarized here was funded by a grant from the Office of Nutrition of the U.S. Agency for International Development and is reported in detail in *The Choice of Milk Substitute or Supplementary Food for Malaysian Infants: A Conditional Logistic Analysis*, John Haaga, N-2148-AID, February 1985, and *Evidence of a Reversal of the Breastfeeding Decline in Peninsular Malaysia*, John Haaga, N-2147-AID, March 1986. Preparation of this brief was funded by a grant from the William and Flora Hewlett Foundation. For more information about the Center, contact Dr. Julie DaVanzo, The Rand Corporation, 1700 Main Street, P. O. Box 2138, Santa Monica, CA 90406-2138, (213) 393-0411.