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Association between infant formula advertising  
and reasons for mother's formula choice

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Abstract

Efforts to limit infant formula marketing because of its adverse influence on breastfeeding require understanding the effects of various marketing activities. Using longitudinal data from 2000 mothers, both prenatal and neonatal exposure formula marketing activities was examined for association with formula switching and reasons for choosing the formula used in infant ages 1, 2, and 5 months. Prenatal exposure to TV, magazine, or internet information was associated with switching formula in month 1. Thus, these types of prenatal advertising may increase mothers' responsiveness to marketing activities after birth. The effect of a sample of formula and a coupon for formula in the hospital gift pack was different. Mothers who received a sample were more likely to choose formula in all months because it was the hospital brand; a coupon had no effect. Receiving formula in the mail increased responsiveness to formula marketing and countered the effect of hospital brand.

## **Extended Abstract**

### **Conceptualization**

Until 1990, infant formula in the US was marketed similarly to drugs in that marketing activities were targeted to physicians, who were expected to recommend a formula to parents. In addition, formula companies competed to become the brand used in hospitals and in gift packs that they supplied to hospitals for discharged new mothers. This type of marketing was shown to be successful, with mothers indicating high probability of using the formula brand used in the hospital and stating the hospital's use of the brand as a reason for their formula choice (1). Since 1990, direct to consumer (DTC) marketing of infant formula has become widespread in the US. Success of this marketing method has led to a greater market share of companies that engage in DTC relative to those that do not (2,3).

The World Health Organization (WHO) views the marketing of infant formula as a threat to breastfeeding and, since 1981, has promoted an International Code of Marketing Breast Milk Substitutes that restricts all advertising of formula. The code has not been adopted by the United States. The American Academy of Pediatrics (4) and formula companies make a distinction between the goal of competing for breast-fed infants, which would not be ethical, and the goal of competing for company share of the infant formula market, which would be ethical. Some forms of DTC marketing of infant formula have been shown to adversely affect breastfeeding, including hospital gift packs containing formula (5) and gift packs containing infant formula samples from the obstetrician's office (6).

This paper examines the association between mother's recall, prenatally and at infant age 1 month, of exposure to various types of infant formula marketing and her reasons for choosing the formula she fed her infant at three time periods and also whether she switched the formula fed to her infant, an indication of responsiveness to advertising. Public health efforts to limit infant formula marketing because of its adverse influence on breastfeeding will benefit from a greater understanding of the effects of various types of DTC marketing on market share because it will show which types of marketing have the highest stakes for the companies.

### **Methods**

Data are from the Infant Feeding Practices Study II, a longitudinal mail study of 2000 pregnant women followed through their infant's first year (7). Exposure to infant formula advertising was asked prenatally and when the infant was about 1 month old. All types of formula promotion in the formula decision model of Cutler and Wright (3) were included as response options. Whether the mother switched the formula fed to her infant and reasons for choosing the formula were asked at infant ages 1,2,5,7, and 9 months. Because exposure to advertising had less effect in the later months, the analysis is limited to months 1, 2, and 5. The current results, based on chi square tests, are unadjusted, and more extensive data analysis will be done.

### **Major findings**

The percentage of mothers who used formula increased from 59% in month 1 to 64% in month 5. Switching formula was more common in the early months: 27% of formula users switched in month 1; 18% switched in month 2; and 12% switched in

month 5. However, the percentage of mothers who switched formula for a reason other than that the infant was having a problem with the formula was similar across months, ranging from 8% in month 5 to 11% in month 1.

The most common reasons for choosing a formula in month 1 were doctor recommended (34%), hospital brand (34%), fed to older child (27%), received sample or coupon (27%), and WIC brand (23%). (WIC is the Special Supplemental Nutrition Program for Women, Infants, and Children, which provides supplemental formula to low income mothers.) These reasons were fairly consistent for the other months except that hospital brand dropped to 22% by month 5.

The percentage of mothers exposed prenatally to formula information or ads from various sources was as follows: TV or magazine 89%; internet 56%; other (newspaper, radio, outdoor poster) 23%. Exposure in month 1 was as follows: formula sample in hospital gift pack 80%; coupon for formula in hospital gift pack 66%; formula sample in the mail 57%.

Formula feeding mothers exposed prenatally to TV or magazine ads were more likely to switch formula in Month 1 and more likely to switch for reasons other than health problems in the baby. Mothers exposed to prenatal web ads were more likely to switch formula in month 1. Exposure to other ads was not related to switching formula.

Prenatal exposure to TV or magazine ads was not systemically related to reasons for choosing formula across months. It was positively related to choosing on the basis of receiving a sample or coupon in Month 2 and negatively related to the reason of using the formula from WIC in Month 2.

Prenatal exposure to internet information about infant formula was positively related to choosing a formula based on receiving a sample or coupon in months 1 and 2 and to using a formula labeled as useful for a problem the baby was having in month 2. It was also positively related to feeding the formula fed to an older child in month 1 and negatively related to using the formula provided by WIC in all months.

Prenatal exposure to infant formula ads or information from other places was positively related to choosing formula because the doctor recommended it and using the formula provided by WIC, and it was negatively related to choosing formula because of a sample or coupon.

Receiving a formula sample or coupon in the hospital gift pack was not related to switching formula in any months or to switching for non-health reasons. Receiving a sample of formula in the mail was related to switching formula in month 1 and to switching for non-health reasons in months 1 and 2.

Mothers who received a formula sample in the hospital gift pack were more likely to use a formula because it was the one used in the hospital. They were also more likely to use a formula because they received a sample or coupon for it and because it was labeled as useful for a problem the baby was having.

Receiving a coupon for formula in the hospital gift pack was not related to any reason for choosing a formula.

Receiving formula in the mail was negatively related to using the hospital brand in months 1 and 5 and negatively related to using the formula provided by WIC. It was positively related to choosing formula for marketing reasons: because the mother received a sample or coupon for the formula (months 1,2,5), because the formula was labeled as useful for a problem the baby had (month 2), because the mother heard that it

was better in some way (month 1), and because the mother saw an ad for the formula and wanted to try it (month 1).

### **Discussion**

Mothers who recalled prenatal exposure to TV, magazine, or internet information about infant formula were more likely to switch infant formula in the first month of the infant's life. Because willingness to switch formula is a requirement for responsiveness to marketing activities, this type of advertising may play an important mediation role. Also, mothers with more exposure to TV/magazine or internet information prenatally may be more likely to receive formula in mail after the 1st month of birth if they register in baby clubs in response to the information. This reasoning is consistent with prenatal exposure being related to later choosing a formula for the reason of having a sample or coupon for it.

There is a large difference in the effect of a sample of formula and a coupon for formula in the hospital gift pack. Mothers who received a sample were more likely to choose a formula in all months because it was the hospital brand. These mothers were also more likely to choose a formula that they had a sample or coupon for in month 1, and to choose a formula labeled as useful for the baby's problem in month 1 and 5. In contrast, receiving a coupon for formula in the hospital gift pack was not related to switching formula or to any particular reason for choosing formula in any of the months.

Receiving formula in the mail seems to increase responsiveness to formula marketing and to counter the effect of hospital brand; it was associated with a greater likelihood of switching formula, to a smaller likelihood of choosing a formula because it was used in the hospital, and to choosing formula for other marketing reasons in month 1 or 2: because it was labeled as useful for a problem the baby had, because the mother heard it was better in some way, or because the mother saw an ad and wanted to try it.

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