

Infant and young child feeding practices among children under 36 months in Bandung City



BACKGROUND

WHO Guiding principles for appropriate complementary feeding¹²

- Continue breastfeeding until 2 years of age or beyond;
 - Responsive feeding;
 - Good hygiene and proper food handling;
 - Start at 6 months with small amounts of food and increase gradually as the child gets older;
 - Gradually increase food consistency and variety;
Increase the number of times the child is fed;
 - Use fortified complementary foods or vitamin-mineral supplements as needed; and
 - Increase fluid intake during illness.
- Suboptimal infant and young child feeding practices persist in Indonesia and child undernutrition continues to be a national concern.^{1,2,3}
 - In Indonesia, only 36.6% of children 6-23 months meet WHO recommendations on minimum acceptable diet for infant and young child feeding, 58.0% received minimum dietary diversity, and 66.0% received minimum meal frequency.^{4,5,6}
 - The Government of Indonesia is prioritizing interventions on stunting reduction, which include promotion of appropriate infant and young child feeding practices within the first 1000 days of life.^{7,8} The Government is also promoting the Healthy Community Movement (GERMAS) which promotes consumption of fruits and vegetables.⁹
 - World Health Assembly (WHA) Resolution 69.9, the WHO Guidance on Ending the Inappropriate Promotion of Foods for Infants and Young Children calls and urges all stakeholders to end all inappropriate promotion of food for infants and young children and to promote policy, and a social and economic environment that enables parents and care givers to make well informed infant and young child feeding decisions.¹⁰
 - WHO recommendations on the marketing of foods and non-alcoholic beverages to children calls for global action to reduce the impact on children of marketing of foods high in saturated fats, trans-fatty acids, free sugars, or salt for the prevention and control of noncommunicable diseases.¹¹

Assessment Activities

Helen Keller International (HKI) is implementing a project entitled “ARCH project: Evidence-based Infant and young child feeding program,” to investigate challenges to optimal infant and young child feeding. These challenges are related to many factors, including wide-spread promotion of BMS, gaps in health care workers' knowledge and skills to support optimal breastfeeding and complementary feeding, and high consumption of commercial snack foods. In Indonesia, HKI and ARCH worked together with the Government of Indonesia, Ministry of Health, and the Bandung City Health Office to interview mothers in health facilities and to measure point-of-sale promotions at retail locations, with a focus on breastmilk substitutes (BMS), commercially produced complementary foods, and commercial snack foods and sugar-sweetened beverages.

Assessment among caregivers of children aged 0-35 months

A cross-sectional survey was carried out with 595 mothers of children 0-35 months residing and seeking child health services in 24 health facilities in Bandung City. Data were collected on mother and child characteristics, breastfeeding and the use of BMS, consumption of commercially produced food and beverage products, counseling, education, and recommendations mothers received on IYCF practices.

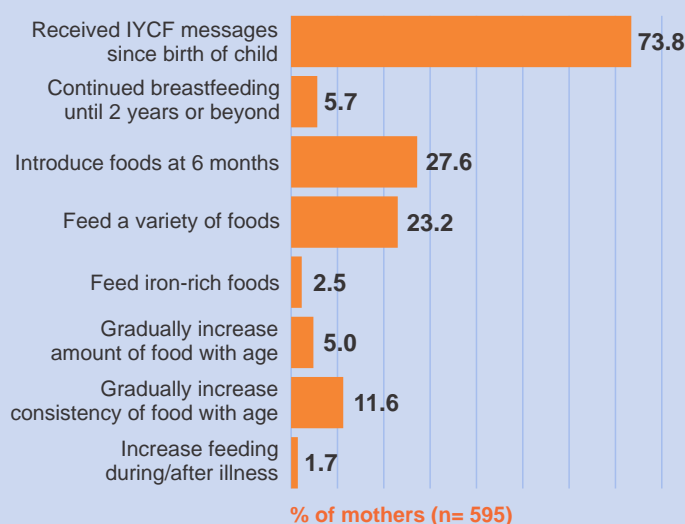
Point-of-sale assessment of BMS, commercial complementary foods and commercial snacks

A point-of-sale assessment was undertaken in 10 large and 33 small stores, across Bandung City. Data were collected on the availability of BMS and commercial complementary foods for sale, and the prevalence of promotions for BMS, commercial complementary foods, and selected commercially produced snack foods and sugar-sweetened beverages in each store.

FINDINGS: ASSESSMENT AMONG CAREGIVERS

Mothers of children 0-35 months of age were asked if they had heard, seen, or received any educational messages, information, or support on infant and young child feeding since the birth of their child, and 73.8% responded yes. Figure 1 shows the percentage of mothers saying they heard key feeding messages. The most commonly reported messages were to continue breastfeeding until two years or beyond (27.6%) and to introduce foods at six months (23.2%). Few mothers could recall key messages about diet diversity, meal frequency, or how to introduce foods.

Figure 1. IYCF messages received since birth of child

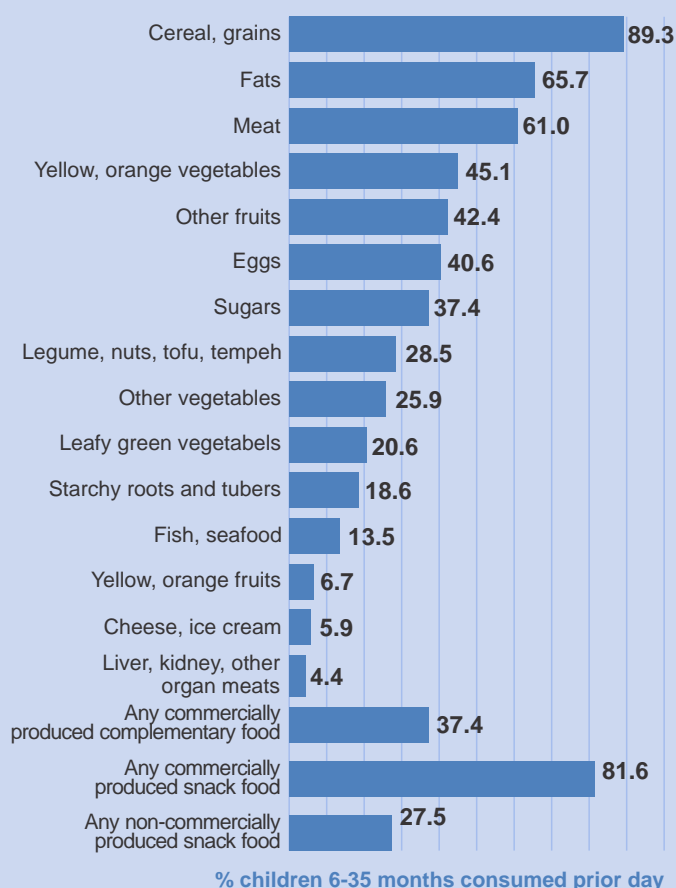


Among the mothers who said they had received information, the predominant source of this information was from the health sector, reported by 66.1% of women. The second most common source was the media (43.7%), including television, online searches, and social media. Mothers also mentioned relatives and other

family members (25.7%) and people/groups in their community (26.2%).

As part of the assessment among mothers, data were collected on child dietary intake following WHO's guidelines for assessing infant and young child feeding practices.⁵ A modified dietary recall was asked, recording each food and time of day it was consumed by the child in the day prior to the survey. Foods were grouped into categories based on WHO's guidelines. Figure 2 shows the percentage of children 6-35 months who consumed a

Figure 2. Percentage of children 6-35 months consuming the food groups in the preceeding day



food in that category in the day prior to survey.

The group including cereals, grains, and rice was the main food group consumed by children (89.3%) followed by commercially produced snacks (81.6%), fat and oils (65.7%), and meat (61.0%). While nearly half of children had yellow/orange vegetables (45.1%) or other fruits (42.4%), overall consumption of fruits and vegetables was low among these children.

Following WHO guidelines,⁵ the three complementary feeding indicators were calculated for children 6-23 months of age. Among these 297 children, 62.6% had minimum dietary diversity,^a 82.2% had minimum meal frequency,^b and less than half (46.1%) met minimum acceptable diet.^c

One of the objectives of the assessment with caregivers was to document the consumption of commercially produced food products by children in the complementary feeding period. The survey included commercially produced complementary foods and commercially produced snack foods and beverages. Commercially produced complementary foods were defined as foods marketed as suitable for feeding children up to 36 months and included infant cereal/bubur, purees, puffs/rusks, and puddings. Commercially produced snack products were defined as manufactured and packaged food products for general consumption. Snack food products of interest included sweet biscuits, savory/salty snacks, candy/chocolate, sweet cake, ice cream, and instant noodles. Snack beverage products of interest, known as sugar-sweetened beverages, included sweetened milks (with added sugar/flavors), sweetened teas, packaged juice/juice drinks, and soda/soft drinks.

As shown in Figure 3, 37.4% of children 6-35 months (n=495) consumed a commercially produced

Consumption of commercial snack foods and sugar-sweetened beverages was highly prevalent among young children

complementary food in the preceding day. Consumption was highest among children 6-11 months (78.8%) and then decreased with age.

Consumption of commercial snack foods and sugar-sweetened beverages was found to be very common among the young children in this study. As noted

in Figure 2, commercial snack foods, often high in sugar and salt, were the second most common food group eaten in the preceding day, with 81.6% of children 6-35 months consuming a commercial snack food. Consumption of these snacks began at an early age, with 46.5% of children 6-11 months old eating a commercial snack food in the preceding day, with consumption increasing by age (Figure 4). The most commonly eaten snack foods in the preceding day were sweet biscuits (56.8%), savory/salty snacks (47.3%), and candy/chocolate (33.7%).

Figure 4. Percentage of children 6-35 months who consumed a commercially produced snack food or sugar-sweetened beverage in the prior day, by age of child

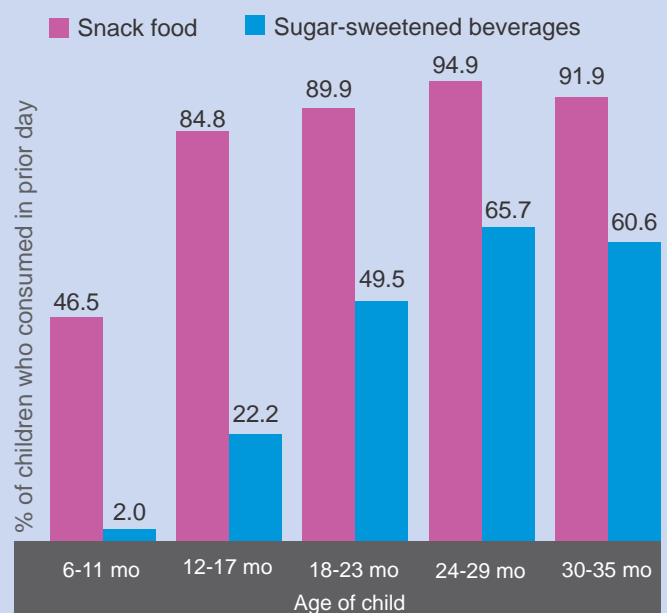
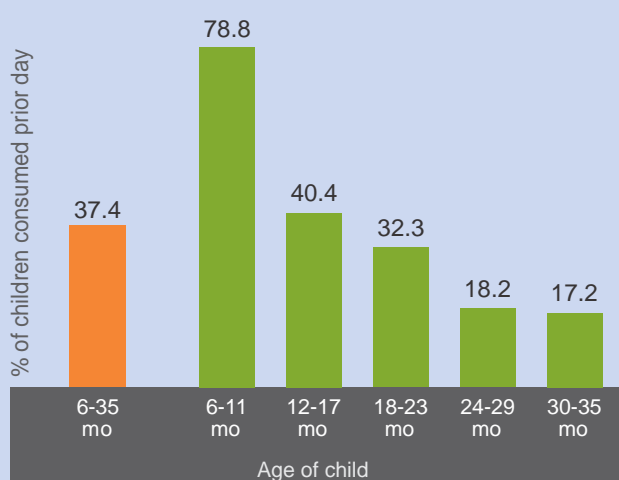


Figure 3. Percentage of children 6-35 months who consumed a commercially produced complementary food in the prior day, by age of child



Consumption of sugar-sweetened beverages was seen in 40.0% of children 6-35 months, and also increased with age. Sweetened milks were consumed by 33.3% of children in the preceding day and 10.1% consumed sweetened teas: the two most commonly consumed sugar-sweetened beverages.

^a Minimum diet diversity = age 6-23 months with consumption of 4 food groups or more.

Seven food groups: cereal / tubers, legumes / beans, dairy products and its derivatives, meat (chicken, fish, etc.), eggs, fruits and vegetables rich in vitamin A, other fruits and vegetables

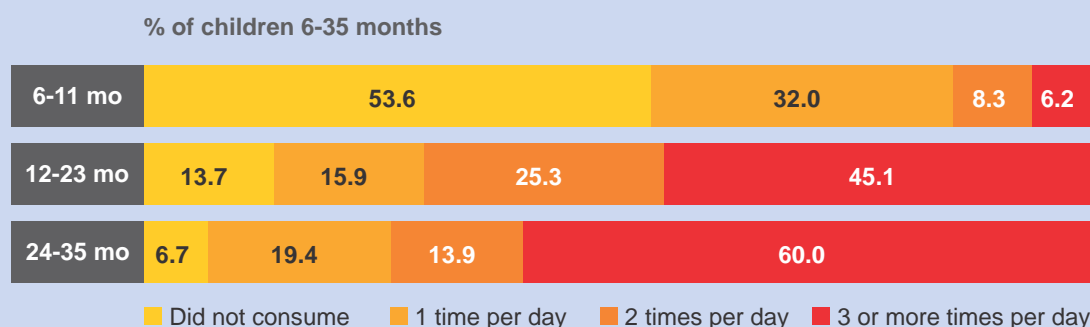
^b Minimum feeding frequency = frequency of eating solid, semi-solid, or soft food at 6-23 months (including milk consumption in non-breastfed children).

(a) 2 times for breastfed-infants aged 6-8 months; (b) 3 times for breastfed children aged 9-23 months; (c) 4 times for non-breastfed children aged 6-23 months.

^c Minimum acceptable diet defined as children 6-23 months having minimally acceptable feeding frequency, diet diversity and consumption of breastmilk or other milks.

The frequency of consumption for commercial snack foods in the preceding day was measured by the number of individual times a mother reported her child eating the snack food during the free recall. We categorized this into (1) did not consume, (2) consumed one time, (3) consumed two times, or (4) consumed 3 or more times in the prior day. Figure 5 shows the frequency of consumption for children 6-35 months. Not only does the prevalence of overall snack consumption increase with child age, but the number of times the snacks were eaten per day also grew. By 24-35 months, 60.0% of children ate commercial snacks three or more times a day.

Figure 5. Percentage of children 6-35 months consuming commercial snack foods 1 time, 2 times, or 3 or more times in the previous day, by age of child



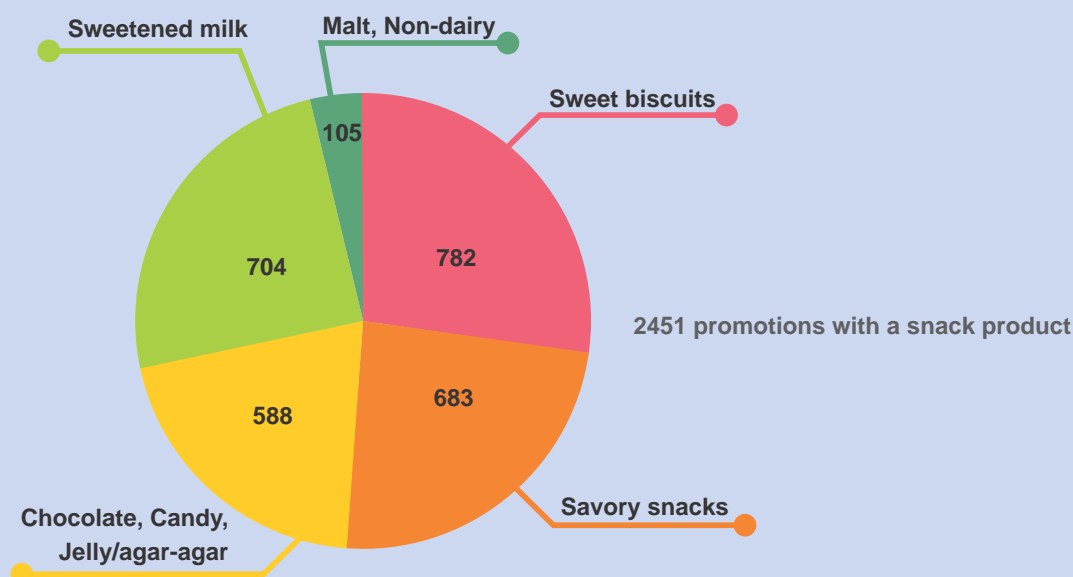
In the survey, we also asked mothers about their exposure to promotions for commercial snack products. Nearly all mothers (97.5%) said they had heard, seen, or read a commercial promotion. Promotions could include advertisements, signs/banners, displays, free samples or gifts, price discounts, or point rewards. Twenty percent (20.7%) observed a snack promotion inside the health system, like a hospital, puskesmas, or posyandu. Commercial snack promotions were more frequently seen in the media (96.5%) or at shops and pharmacies (83.7%). Almost all mothers (97.0%) also reported seeing a promotion for commercially produced complementary foods.

FINDINGS: POINT-OF-SALE PROMOTION OF COMMERCIAL SNACK PRODUCTS

From 43 stores visited during data collection, 41 were observed with promotions for five categories of commonly consumed commercial snack foods and sugar-sweetened beverages. These categories were sweet biscuits, savory/salty snacks, candy/chocolates, sweetened milks, and malt-beverages/non-dairy milks like soy or rice milk. Promotions of interest included displays, price discounts, information materials, free gifts, samples, company representatives, store banners, or other types of promotions like seasonal gift baskets. Across these 41 stores, 2451 snack promotions were counted in total (Figure 6). Promotions of sweet biscuits (31.9%, n=782) and sweetened milks (28.7%, n=704) were the most prevalent.

Nearly all stores were observed with promotions of commonly consumed snacks and sugar-sweetened beverages

Figure 6. Number of promotions observed in point-of-sale by snack food sub-category



SUMMARY

1

Many women reported receiving IYCF education and support, but few could mention specific key feeding messages. The health system and media were the top sources for information.

2

Less than half of children age 6-23 months received a minimum acceptable diet. Top food groups consumed were cereals/grains/rice and commercial snack foods. Consumption of fruit and vegetable groups was low.

3

Consumption of commercial complementary foods was common and most frequent with children 6-11 months; however, older aged children still received commercial complementary foods. There can be a role for properly formulated and fortified commercial complementary foods to help a child meet its micronutrient needs.

4

Consumption of commercial snack foods and sugar-sweetened beverages in the preceding day was high and often frequent. Children started consuming snacks early in age, and the prevalence and frequency increased with older child age. Commercial snack products are often high in sugar and salt, and nutrient poor. High consumption during the complementary feeding period can displace breastmilk and more nutritious foods, and can increase the risk of overweight/obesity and development of non-communicable diseases.

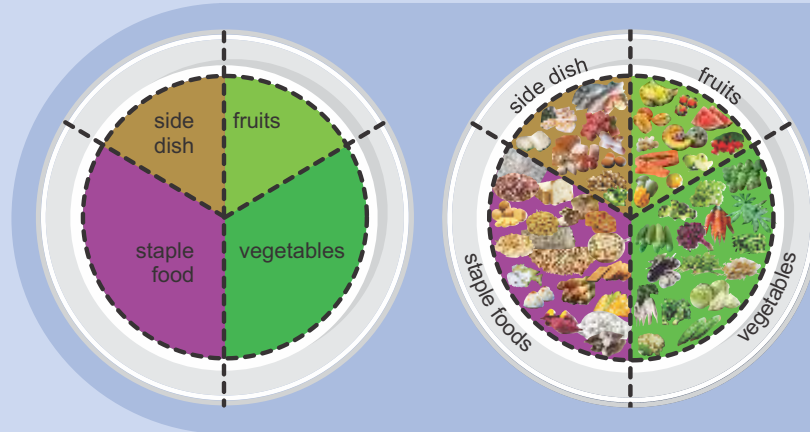
5

Exposure to snack foods promotions was nearly universal among mothers, with most viewing commercial promotions in media and shops. The point-of-sale research found a high number of snack promotions for five categories of snacks, with the highest number for sweet biscuits and sweetened milks, also the most popular snack products consumed by children 6-35 months in the survey.



1. Beal T., Tumilowicz A., Sutrisna A., Izwardy D., & Neufeld L.M. (2018). A review of child stunting determinants in Indonesia. *Maternal & Child Nutrition*, e12617. <https://doi.org/10.1111/mcn.12617>
2. Kementerian Kesehatan. (2015). Rencana Strategis Kementerian Kesehatan RI 2015-2019. Kementerian Kesehatan: Jakarta, Indonesia.
3. Ng C.S., Dibley M.J., & Agho K.E. (2012). Complementary feeding indicators and determinants of poor feeding practices in Indonesia: a secondary analysis of 2007 Demographic and Health Survey data. *Public Health Nutrition*, 15 (5), 827-839.
4. Badan Pusat Statistik (BPS), Badan Kependudukan dan Keluarga Berencana Nasional [BKKBN], Kementerian Kesehatan dan ICF International. (2013). *Survei Demografi dan Kesehatan Indonesia 2012*. Jakarta, Indonesia: BPS, BKKBN, Kemenkes, dan ICF International.
5. World Health Organization. (2010). Indicators for assessing infant and young child feeding practices. Part 2 Measurement. World Health Organization: Geneva, Switzerland.
6. Global Nutrition Report. 2017. Indonesia Country Profile. <http://globalnutritionreport.org/wp-content/uploads/2017/12/gnr17-Indonesia.pdf>
7. Tim Nasional Percepatan Penanggulangan Kemiskinan (TNP2K). 2017. 100 Kabupaten/kota prioritas untuk intervensi anak kerdil (stunting). Jakarta: Sekretariat Wakil Presiden Republik Indonesia.
8. Black R.E., Allen L.H., Bhutta A.Z., Caulfield L.E. de Onis M., Ezzati M. et al. (2008) Maternal and child undernutrition: global and regional exposures and health consequences. *Lancet*, 371, 243-260.
9. Instruksi Presiden RI Nomor 1 Tahun 2017 tentang Gerakan Masyarakat Hidup Sehat. http://www.kesmas.kemkes.go.id/assets/upload/dir_519d41d8cd98f00/files/Inpres-Nomor-1-Tahun-2017-tentang-Gerakan-Masyarakat-Hidup-Sehat_674.pdf
10. World Health Organization. (2016). Maternal, infant and young child nutrition Guidance on ending the inappropriate promotion of foods for infants and young children. Geneva: WHO. Retrieved from http://apps.who.int/gb/ebwha/pdf_files/WHA69/A69_7Add1-en.pdf?ua=1
11. World Health Organization. (2010). Set of Recommendations on The Marketing of Foods and Non-Alcoholic Beverages to Children for Assessing Infant and Young Child Feeding Practices. World Health Organization: Geneva, Switzerland.
12. World Health Organization. (2003). Guiding principles for complementary feeding of the breastfed child. World Health Organization: Geneva, Switzerland.

Figure 7. Ideal food composition per meal in MY PLATE



GERMAS promotes proportional daily consumption of the four nutritious food groups in MY PLATE

RECOMMENDATIONS

- 1 The Government of Indonesia promotes GERMAS (Healthy Living Community Movement) which promotes consumption of fruits and vegetables, diet diversity, and local foods. GERMAS uses MY PLATE, encouraging consumption of four categories of nutritious foods (staple foods, protein-source foods, fruits, and vegetables), and restricting intake of sugar, salt, and fat. Healthy eating messages should be translated to simple guidelines on feeding young children.
- 2 GERMAS should receive wide support from multiple stakeholders to ensure better support to mothers or caregivers on infant and young child feeding from the health system, community and others
- 3 The existing national laws (Health law 36/2009 and Government regulation on food label & advertisement 69/1999) lack regulation on commercially produced complementary foods and snacks for children up to three years old. A new regulation, adopting World Health Assembly (WHA) resolution 69.9 on ending the inappropriate promotion of foods for infants and young children can limit young children's exposure to marketing of unhealthy foods.
- 4 There is a pressing need for a new national regulation that stimulates the food industry to change the way they promote snack foods and sugar-sweetened beverages, so caregivers can be aware of products that are not suitable for young children.
- 5 The complementary feeding period is a critical window for optimum growth and development. The consumption of unhealthy foods may lead to poor growth, and increased risk of obesity and non-communicable diseases. To help address the persistent nutrition problems faced by the nation, the promotion of commercial foods targeting young children should be reduced. This calls for support and action from many sectors, beyond the health sector, to ensure the development and enforcement of regulation prohibiting these promotions.

