

Baltimore Healthy Stores

Results and Implications

Intervention involved providing promotional materials to store owners on how to stock healthier food and improve interactions with customers.



The Baltimore Healthy Stores (BHS) project seeks to promote healthier food choices through store promotions and on-site education. Formative research found that store owners resisted sourcing healthier food because of a lack of consumer demand. Consumers reported they could not purchase healthier foods due to unavailability and poor quality. BHS sought to bridge the gap between supply and demand.

BHS is based on the premise that modifying a given food environment, like a corner store, will influence consumer behavior. Research has found that environmental factors are linked to diet-related disease such as diabetes, heart disease and obesity.

In Baltimore City, a lack of full service supermarkets in many neighborhoods means residents rely on small scale grocery stores and corner stores to fulfill their needs between visits to the supermarket. These corner stores

are rife with processed foods that are high in sugar, salt and/or fat. The proliferation of carry-outs and fast food restaurants also contribute to the consumption of high energy, low nutrient quality foods.

Intervention

The Baltimore Health Stores (BHS) program was implemented in two supermarkets and seven Korean American-owned corner stores in East Baltimore (intervention stores). It was comprised of five phases with the themes “Healthy Breakfast”, “Cooking at home”, “Healthy Snacks”, “Carryout phase” and “Healthy Beverage”. Eight stores (two supermarkets, six corner stores) in West Baltimore were used as comparison stores. BHS used a combination of in-store promotions and incentives, including shelf labeling, posters, taste tests, coupons, incentive cards, recipes and other materials. Researchers visited each of the intervention stores weekly to conduct taste tests and cooking demonstrations,

distribute food samples and giveaways, and interact with visitors to explain messages and answer queries. The selection of foods for promotion was based on extensive 24-hour dietary recall surveys from community members that identified the foods that contributed the most fat, sugar, and total calories to their diets. Community workshops were also conducted to identify affordable and acceptable alternatives.

A number of steps were taken to ensure maximum store participation. Korean American store owners participated in a nutrition education session in Korean, and were provided materials on how to stock healthier food and improve interactions with customers. Wholesale coupons were provided to offset the increased costs of new products, or promoted products were supplied by the researcher. At baseline, the percent of stores stocking the promoted foods was: 67% (low fat milk), 89% (high fiber cereal), 89% (low fiber cereal), 44% (cooking spray), 0% (baked or reduced-fat chips), 0% (low sodium pretzels), 67% (fresh fruits), 33% (whole wheat bread), 44% (split-top bread), and 100% (diet sodas and water), respectively.

Intervention involved providing promotional materials to store owners on how to stock.

Impact

In general, promoted foods continued to be stocked after the end of the promotional phase in the intervention stores. The number of stores stocking some

of the promoted health foods increased at post-intervention as compared to the comparison stores. In particular, this increase was observed for low-sugar cereals, baked or low-fat chips, low-fat crackers and cooking spray in intervention stores. For comparison stores, the number of corner stores where low-fat milk, low-fat crackers and cooking spray were available considerably decreased at post-intervention. On the other hand, there was no change in the availability of high-fiber cereals, low-sodium pretzels, and fresh fruits for either store group.

labels, and attitudes about their ability to eat healthily (self-efficacy), these differences were not shown to be statistically significant. Healthy food cooking, however, was significantly increased in the intervention area.

Implications

Overall, the BHS program was implemented with a high level of storeowner compliance in making healthy foods available, a high number of participants reached, and a high number of intervention activi-

Table 1.
Average stocking and sales scores at baseline, post-phase and post-intervention for intervention vs. comparison corner stores

	Average Stocking Scores (range 0-10)			Average Sales Scores (range 0-10)		
	Intervention	Comparison	Significance (p <.05)	Intervention	Comparison	Significance (p <.05)
Baseline	5.9 ± 2.0	6.8 ± 1.6	NS	4.4 ± 1.8	5 ± 1.5	NS
Post-phase	8.3 ± 1.0	6 ± 1.8	0.004 *	7.1 ± 2.0	5.8 ± 1.8	0.05*
Post-intervention	7 ± 2.0	5.5 ± 1.5	0.009 **	6.4 ± 1.8	4.7 ± 1.5	0.003**

Footnotes: The stocking and sales score were created by adding one point for each type of promoted healthy foods stocked (or sold) in corner stores. The mean of stocking and sales score of each promoted healthy food items ranges from 0 (no stores in each area stock a promoted healthy food) to 1 (all of the stores in the area stocks the promoted healthy food). Therefore, the average stocking or sales scores of ten promoted healthy foods range from 0 to 10.

A statistically significant difference was shown in overall stocking and sales between the intervention and the comparison stores after receiving the program intervention, and also after a 6-month follow-up period. A significant increase was shown in post-program sales of low-sugar cereals, cooking spray, baked /low-fat chips, and low-fat crackers in intervention stores compared with comparison stores. A similar trend of increasing weekly whole wheat bread and 100% fruit juice sales was found in the intervention versus a reverse trend in comparison stores.

Researchers were able to quantify the changes in storeowner expectations that the BHS program taste test and intervention activities would increase food sales. Results show that this expectation as well as self-efficacy to stock some of the healthy foods increased in intervention storeowners as compared to comparison storeowners. Statistical tests indicated that both of these findings were significant.

Although there was a positive change in residents' knowledge about food, ability to read nutrition facts

ties conducted. The findings of the study supported its original proposition that stocking and selling healthy foods at corner store settings in a low-income community are feasible, and that this resulted in modestly increased sales of those foods. Also, it showed some impact on food preparation.

Nutrition intervention programs that modify the food environment can have a large impact on the food related behaviors of African Americans in Baltimore. The Baltimore Healthy Stores program works with corner stores and supermarkets to bring about changes in healthy food stocking. With their cooperation, it can also promote healthy food choices at the point of purchase. This program can be improved by increasing its reach, generating greater community involvement, and pursuing better communication strategies.

For more information please contact:
Dr. Joel Gittelsohn (jgittels@jhsph.edu)
www.healthystores.org