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RESEARCH INSIGHTS

Ghana Licensed Chemical Sellers Increase Provision of Zinc to Treat Childhood Diarrhea

This study evaluates the effectiveness of a diarrhea management training and marketing program for licensed chemical sellers and a mass media campaign. The interventions, which have led to a high level of zinc sales, are a promising approach to promote the use of ORS and zinc as a childhood diarrhea treatment.

Diarrhea is a leading cause of death among children under five in Ghana and throughout the developing world. Since 2004, UNICEF and WHO have recommended low osmolarity oral rehydration solution (ORS) and zinc as the safest and most effective treatment for acute pediatric diarrhea. However, ORS and zinc are relatively new alternatives to antimicrobial and antidiarrheal treatments, which are not recommended for uncomplicated pediatric diarrhea. Zinc was unknown to most consumers and providers in Ghana until 2012.

The SHOPS project, in partnership with the Ghana Health Service, developed a program for the national introduction of the new diarrhea treatment protocol. The project partnered with M&G Pharmaceuticals Ltd., a Ghanaian pharmaceutical firm, to introduce zinc into the commercial market in Ghana. SHOPS conducted diarrhea management trainings for licensed chemical sellers (LCS), who are a common source of treatment for childhood illnesses in Ghana. SHOPS also supported M&G's marketing campaign, which included marketing visits to trained LCS, and a mass media campaign to drive consumer demand for ORS and zinc.

Methods

SHOPS researchers used a modified pre-post study design to evaluate the effectiveness of training, marketing visits, and mass media interventions on zinc provision[1] using monthly wholesale sales data, a face-to-face provider survey, and a mystery client survey.

Before zinc as a diarrhea treatment was introduced in Ghana in January 2012, it is assumed that zinc

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Key Findings

- Zinc sales spiked at the time of LCS trainings
- A mass media campaign coincided with an even larger increase in zinc sales
- Two-thirds of LCS sold zinc when visited by a mystery client—a large proportion for a previously unknown and unavailable product
- Almost half of LCS sold antimicrobials to mystery clients, possibly due to perceived customer preferences

[1] SHOPS was unable to evaluate the effectiveness of these interventions on the provision of ORS, antimicrobials, or antidiarrheals, as these products have been on the market in Ghana for some time.

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provision rates were close to zero.[2] SHOPS researchers compared this assumed baseline rate of zinc provision with the level of zinc provision by LCS who received the program interventions. Researchers compared the rates of monthly zinc sales with the time frames of the SHOPS interventions to examine the relationship between sales and the interventions.

Findings

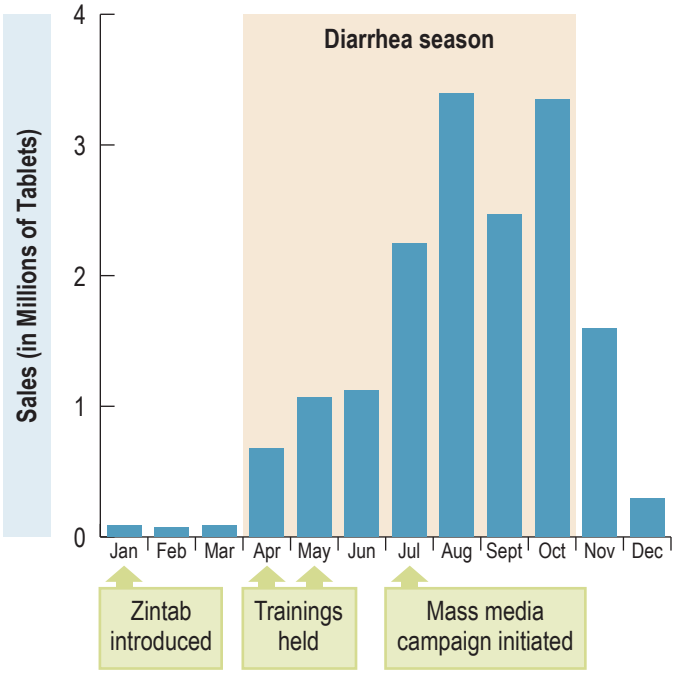
Zinc sales spiked at the time of LCS trainings

M&G pharmaceuticals began distributing zinc products through its well-established network of wholesalers across Ghana in January 2012. However, based on monthly wholesale sales data provided by M&G to SHOPS, zinc sales remained under 100,000 tablets per month until the onset of the diarrhea season from April to October. When the SHOPS trainings occurred in April and May 2012, there were large increases in the monthly sales of Zintab (see figure). Sales surpassed 1 million tablets in May, though the relative impact of the trainings versus the demand driven by the diarrhea season cannot be disaggregated given their similar starting dates.

A mass media campaign coincided with an even larger increase in zinc sales

In July 2012, SHOPS implemented a media campaign with television and radio ads that encouraged consumers to use ORS and zinc when treating their children for diarrhea. The commencement of the media campaign coincided with zinc sales more than doubling to 2.4 million tablets in July. At their 2012 peak, zinc sales reached 3.4 million tablets in August.

Monthly Wholesale Sales of Zintab, 2012



The SHOPS trainings and mass media campaigns coincided with spikes in the wholesale sales of the newly introduced zinc.

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[2] This is consistent with low zinc use (2.1 percent) reported in the 2008 Ghana Demographic and Health Survey.

Two-thirds of LCS sold zinc when visited by a mystery client—a large proportion for a previously unknown and unavailable product

SHOPS sent mystery clients to nearly 700 of the facilities with LCS trained by SHOPS. Interviewers requested a treatment from LCS for a two-year-old child with acute diarrhea, no blood in his or her stool, and no fever. Interviewers recorded the names and prices of products sold to them. Most LCS (66 percent) sold zinc tablets to the mystery client.[3] This is a sizable proportion, given that zinc was made available to LCS less than twelve months prior to the mystery client visits.

Almost half of LCS sold antimicrobials to mystery clients, possibly due to perceived customer preferences

Many LCS sold treatments that are not recommended by UNICEF and WHO guidelines for acute pediatric diarrhea. Almost half (48 percent) of LCS sold antimicrobials, which are only recommended if the child has blood in his or her stool or suspected shigellosis (an infectious disease). Eleven percent sold antidiarrheals, which are never recommended for children and can have life-threatening side effects. While mystery clients did not request any specific treatment, many providers noted during face-to-face provider surveys that they had experienced customers refusing ORS (25 percent) and zinc (12 percent), and that customers' most commonly requested treatment was the antimicrobial Flagyl (metronidazole).

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[3] Nearly all (96 percent) of the LCS who sold zinc to the mystery client also sold ORS. Overall, 63 percent of the LCS sold ORS and zinc to the mystery client.

Program Implications

Strategies that improve provider knowledge and boost consumer demand appear effective for introducing new products

Provider training was a vital first step to familiarize LCS with the newly introduced zinc, and the training sessions coincided with sizable increases in wholesale sales of zinc. However, the volume of zinc sales increased far more following a media campaign aimed at boosting consumer demand. The strategy of a provider-focused intervention followed by a consumer-focused intervention appears promising for the introduction of new treatments in Ghana, and may be applicable to other countries.

It appears easier to increase correct treatment (zinc) than to reduce incorrect treatment (antimicrobials)

The rapid adoption of zinc tablets for pediatric diarrhea among LCS in Ghana is a positive step toward the provision of correct treatment by private sector retailers. However, the uptake of zinc did not fully displace the incorrect use of antimicrobials. Even among LCS who attended training sessions that encouraged ORS and zinc and discouraged antimicrobials, the provision of antimicrobials remained high. It is important to develop greater understanding of the factors that cause inappropriate treatment practices to persist, and generate strategies that can address these barriers.

Behavior change may be difficult for private providers who must maintain their customer base

While public sector providers can be expected to change treatments based on a policy change in their treatment guidelines, changing behaviors may be far more difficult among private sector providers who depend on customer satisfaction to maintain the viability of their practice. Given that many LCS noted in face-to-face interviews that they had experienced customers refusing ORS and zinc and requesting antimicrobials, these providers may be cautious in changing their recommendations knowing that they may lose customers.

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This summary is based on research conducted by the SHOPS project. For more information, contact info@shopsproject.org.

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For more information about the SHOPS project, visit: www.shopsproject.org

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