Democratic Republic of Congo 2009–2011

COMBINING WASH AND NUTRITION INPUTS TO TACKLE SPECIAL PROBLEMS OR MEET THE NEEDS OF SPECIAL POPULATIONS

Improving Diet and Eradicating "Konzo" Food Poisoning via a Multi-Sectoral Approach Combining Nutrition, Food Security, and WASH Components

Context

Konzo is a neurological ailment triggered by sustained dietary exposure to the cyanide present in improperly processed cassava. It comes on suddenly and leads to a permanent paralysis of the lower limbs. Konzo also accelerates and worsens malnutrition. It usually appears in clusters within households because members are exposed through the common family meal. While cyanide is naturally present in all kinds of cassava, bitter varieties contain much higher levels, and cassavas grown during drought are known to contain particularly high levels of cyanide. These varieties must be peeled, grated, and soaked in warm water for several days to disperse the chemical.

In the Democratic Republic of Congo, Action Against Hunger (ACF-USA) conducted a program in 395 villages in the Kwango District, Bandundu Province, to eradicate the disease, which had reached an epidemic proportion. Funding was provided by the European Union Food Facility. A total of 22,000 households were reached.

ACF

Retting of cassava in a fish pond in Kasongo Lunda.

Activities/Channels

Formative research showed that vulnerability to konzo in the target area was heightened by the combination of low protein intake, poor soil conditions (which favor the cultivation of bitter cassava varieties), and a lack of sufficient water resources for processing. Women in rural areas preferred to directly soak the cassava on river banks, ponds, or swamp areas. Research showed that in the dry season, women were more inclined to use less water to process (or ret) their cassavas, and to use the same water over and over again. During the lean season when households had little to eat, they often consumed their cassavas too quickly—without giving them a chance to be detoxified. In the target communities, konzo was recognized as a specific condition, but was thought by families to be caused by black magic.

Over two successive agricultural seasons, ACF promoted crop and diet diversification by introducing cultivation of improved varieties of both cowpeas and sweet cassava. The project provided training in agricultural techniques and also distributed cuttings and seeds. In addition, ACF worked in partnership with women's groups to establish 13 mills to increase access to maize and cassava milling services and improve the quality of the flour. Water points (boreholes, springs, rainwater harvesting systems,

and piped distribution networks) were rehabilitated or constructed and public retting containers were installed to ensure that villages had access to sufficient water (and of sufficient quality) for processing the cassava. Community management committees owned the new retting tanks, but anyone in the area could use them for a small fee.

The project trained 1,520 volunteer communicators to conduct educational sessions to raise awareness of the causes of konzo and to carry out culinary demonstrations around balanced diets and promote kitchen gardens. Improved fufu recipes based on mixed cassava and maize flour were introduced. The project distributed posters in public areas, religious sites, health centers, and schools; songs and stories were broadcast on two local radio stations. The project also organized 154 mass educational sessions in churches, mosques, and schools.

Water being transported by a child in Kahemba City.

Results

An impact evaluation showed that new varieties of cassava were largely accepted in the target area, with an increase in intercropping of both bitter and sweet varieties. Overall food stocks and diversity of food (including pulses) in households increased between baseline and endline. Knowledge about konzo increased significantly. After two years, 95 percent of those surveyed associated konzo with nutritional causes and knew how to prevent it. Only 7 percent thought the disease had a metaphysical or black magic origin, in contrast to 74 percent at baseline. Knowledge of the optimal length of time to ret and dry cassava increased from 60 percent at baseline to 99 percent at endline, and the amount of time households actually soaked cassava increased from an average of 2 days to 3.4 days. A strong inverse correlation existed between "participation" and "lack of knowledge," indicating the impact of the outreach and education activities.

According to screenings made by local health personnel, the prevalence of konzo decreased by 84 percent between 2010 and 2011. The greatest reduction was among those under five years of age.

Lessons

The project used a community cell approach to sensitization and promotion and put community members in leadership positions, which allowed for open discussion and mitigation of local taboos. The community cell approach also encouraged affected populations to create messages, resulting in better communication. The impact of community education was reinforced by improved access to water, agricultural processing infrastructure, and opportunities to diversify diets.

Resources

Cassava Cyanide Diseases & Neurolaphyrism Network, June 2013. https://www.ugent.be/we/genetics/ipbo/en/networking/ccdnn/newsletters/ccdnn21.pdf

A cross-sectoral approach to addressing Konzo in DRC. August 2011. http://fex.ennonline.net/41/cross

Impact of cross-sectoral approach to addressing konzo in DRC. December 2012. http://fex.ennonline.net/44/drc

Original French language reports can be found on the ACF-USA website:
Baseline Report

Endline Report

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