Bringing Dengue Prevention Down to Earth: Evaluation of a Head Start Project in Puerto Rico

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What is dengue?



- Viral disease transmitted most commonly by Aedes aegypti
- Symptoms- fever, headache, body pains, rash, hemorrhagic manifestations
- Four serotypes- DEN-1,2,3, or 4
- Mosquito breeding sites- a variety of household containers with water
- Prevention methods- control or elimination of containerscommunity or government
- It is endemic in Puerto Rico



Head Start Program

- Federally-funded program to improve health and development of preschool children from low income families
- Partnership- CDC, Rotary Club, PR Dept. of Family (developed activity booklet for children and a guide for teachers)
- Dengue module incorporated in centers throughout Puerto Rico (→ 18,000 children/yr)
- New HS performance standard- increase parental involvement and empowerment





Dengue prevention in San Sebastián

Goal

Promote community empowerment by enabling parents served by the Head Start Program to educate and train residents to control *Ae. aegypti* breeding sites





Dengue prevention in San Sebastián

Objectives

- Promote parental participation in the development of dengue prevention activities
- Provide training to develop leadership, communication, health education, community organization and dengue prevention skills
- Develop an action plan to implement dengue prevention activities in the community





Selection criteria

- High incidence of dengue
- Parents were interviewed and agreed to participate
- Intervention and "control" communities of similar socio-economic level

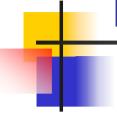




Implementation

- Participating mothers (n=6) received training about dengue, leadership and communication skills, breeding site control measures, and recycling
- Participating mothers developed an action plan





Implementation

Dengue prevention activities

- Painted bridge
- Educational handout and house visits
- Dengue prevention exhibit
- Children's parade



Community activities



Training session



Painted bridge



House visit



Children's parade

Evaluation of training

Variable	Response
Participation	All participated in training sessions
Topics	All said that the themes were interesting and necessary for them
In general, training was	50% excellent
	50% good
Skills	83% acquired the skills necessary to perform activities in the community



Skills acquired by participating mothers

- talk to neighbors about dengue

- plan a meeting
 request services from agencies
 identify community problems
 give a talk about dengue in the community
- 5 { coordinate activities develop a recycling project
- 4 { write a letter organize a community association





Evaluation methodology

- Questionnaire-based surveys
 - Intervention community- 106
 - "Control" community- 102



Responses by residents in the intervention community

Activity	Exposure	Message	Motivational
		was clear	
Painted Bridge	60/106 (57%)	28/48 (58%)	27/49 (55%)
House visit and educational leaflet	21/106 (20%)	13/13 (100%)	14/20 (70%)
Dengue Prevention Exhibit	6/101 (15%)	3/6 (50%)	5/6 (83%)
Children's Parade	15/105 (15%)	8/13 (62%)	8/11 (73%)





Actions taken by the community

- Cleaned patios and surroundings
- Eliminated containers with stagnant water
- Stored or discarded tires and cans
- Eliminated plants with water
- Covered containers with water



Knowledge about dengue prevention

Variable	Intervention Community	"Control" Community	
What is dengue?	53% a virus	33% a virus *	
How is dengue transmitted?	63% by Ae. aegypti	47% by Ae. aegypti *	
Symptoms	85% fever	52% fever *	
	78% body pain	47% body pain *	
What should you do if you have dengue?	91% visit physician	91% visit physician	
Where does Ae. aegypti breed?	87% containers with stagnant water 69% tires	85% containers with stagnant water 56% tires *	
How do you prevent dengue?	74% cover containers 73% turn containers upside down 57% spray	69% cover containers 55% turn containers upside down * 54% spray	

Principal project outcomes

- 72 (68%) of 106 respondents observed the activities
- 34 (60%) of 57 respondents said that the messages were clear
- 30 (50%) of 60 were motivated by the messages to take preventive measures
- Intervention community generally had a higher level of correct knowledge than the "control" community
- In spite of their knowledge about elimination and control breeding sites, both communities still wanted governmental spraying as a control measure





- A small group of motivated women generated a good response in their community.
- More prevention-oriented activities (better promotion/better attendance) are needed.
- Develop evaluation procedures that women can use to assess community needs and monitor project implementation and outcomes.
- Include quantitative and qualitative methods to evaluate process and outcome.







- Review project results with Head Start staff and participating mothers to explore future dengue prevention activities in San Sebastián.
- Expand the project to other municipalities in Puerto Rico.

