

# Microbe Literacy Intervention

**Goal:** Ascertaining through an impact evaluation of Microbe Literacy whether demonstrating the existence of microbes improves hygiene and sanitation behavior and subsequently identifying constraints on behavior and health.

**Objectives:**

1. Design and implement an innovative hygiene education program that attempts to increase the salience of hygiene education by allowing participants to both visualize environmental microbes and learn about proper hygiene and sanitation practices.
2. Evaluate the impact of the hygiene education program through measuring its effect on participants' beliefs and perceptions, hygiene and sanitation behavior, and infectious disease morbidity.

## Project Evaluation

In light of this information, researchers at CERP partnered with NCHD and conducted a Microbe Literacy (ML) hygiene education program that attempted to increase the salience of hygiene education and practices. The intervention targeted women and girls over age of 15 who are the primary caretakers for infants and small children.

The ML curriculum included two 90-minute interactive workshops.

- In the microscope demonstration, participants used magnifying glasses to learn about magnification and then prepared microscope slides of samples from the environment. These samples may include standing water, buffalo dung, and spoiled food. Participants took turns looking directly through the microscope while the rest of the class watched on a closed-circuit television.
- The infection-prevention workshop builds subsequent to previous workshop experience, by offering specific information on disease prevention, including hand washing, safe food handling, and latrine usage.

Both workshops followed prepared manuals, used gender-matched facilitators, and adopted an open-discussion approach.

For evaluation, female facilitators presented the ML curriculum to participants in Adult Literacy Classes (ALCs) a flagship program of NCHD which specifically targeted illiterate women between the age of 11 and 45. The classes ran for six months covering language and math skills, and basic health and hygiene education. The Microbe Literacy intervention was paired with ALCs in four districts of Southern Punjab where literacy levels are the lowest and health indicators are the poorest (see MICS 2007-08).

Using a randomized impact evaluation design, the intervention incorporates two treatment arms:

- A control group with no access to hygiene education programs
- Treatment arm 'A' subjected to the introduction of Microbe literacy hygiene education program.
- Treatment arm 'B' with a conventional hygiene curriculum

The evaluation measured short and long-run effects by tracking physical bacteria count across study participants. Data was also collected on beliefs and perceptions about disease causation, hygiene and sanitation behavior. Provided ML influences the beliefs of respondents, this design also allowed researchers to identify constraints on behavior and health.

## **Project Outcomes**

Mr. Edward Heggins (Health consultant) trained 32 Master Trainers from 4 districts (Muzaffargarh, Rahim Yar Khan, Bahawalnagar and Lodhran) on Microbe literacy including DGMs, DPM, LC, LAS and JLCs

In the initial phase of survey 4 different teams collected data from each location of ALCs.

- a. **Hand wash:** collected hand wash data from 2821 Learners from 4 District.
- b. **Sample of drinking water:** collected sample of drinking water data from 434 Learners from 4 District.
- c. **Interview of learners:** conducted 4240 interview in the sample survey

Outcomes of Interactive Workshops:

### **Health interventions by the use of Microscopes**

In 4 districts, 72 ALCs were selected for this activity: Bhawalnagar 7, Lodhran 31, Muzaffargarh 7 and Rahim Yar Khan 27 ALCs.

### **Lectures on Infection Preventions Method.**

In 4 districts, 143 ALCs were selected for this activity: Bhawalnagar 17, Lodhran 62, Muzaffargarh 15 and Rahim Yar Khan 49 ALCs.

*Both interventions were completed in all 4 districts*

## **Participants**

- a. 3912 Female having 1940 children attended the infection prevention lectures
- b. 2312 Female having 875 children attended the use of microbe prevention lectures