

## From community to community: collective participation in improving water quality in Jaqueira/PE, Brazil.

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The municipality of Jaqueira is located in Pernambuco/Brazil and has 11,501 inhabitants, of which 50.66% live in the urban area and 49.34%, in the rural area. Only 52.24% of households in Jaqueira are connected to the water supply network. The rest of the population use alternative water sources, without prior treatment. This work aimed to involve employees of the Health, Education and Social Assistance Secretariats of Jaqueira and representatives of the community in the development and execution of a water improvement plan for the municipality. Meetings were held and the Jaqueira Water Quality Improvement Plan was developed collectively. This Plan defined: (i) the participation of Primary Care technicians and community representatives in the identification of dangers to the quality of water for human consumption in the municipality; (ii) develop educational actions to train multipliers to promote the health of the population, with training covering the themes "Environmental health", "Water-related diseases" and "Water storage and treatment"; and (iii) to train health surveillance technicians for water alternative treatment and for water quality analysis. During the training, the participants carried out a survey of the sources of water contamination, identifying the health hazards and related the existing diseases in the municipality to those hazards. The Health Surveillance Agents were trained to assemble chlorine dosers and chlorinators by diffusion, they were also trained to carry out analyzes of the quality of water for human consumption. Chlorine dosers and diffusion chlorinators were made and tested in three locations. Samples of raw water were analyzed before treatment and samples of treated water were analyzed 24 hours after the start of treatment. The raw water samples showed contamination by total coliforms and one of the samples contamination by *Escherichia coli*. 24 hours after the beginning of the treatment, the three samples showed no contamination, presenting a satisfactory result. Chlorine dosers and diffusion chlorinators can be used for water alternative treatment in water tanks and in the cacimbas of the rural area, with the monitoring of water quality.

**Keywords** : community participation; water quality; environmental education; water treatment.