Title:
Comparing the Effect of Community Engagement on the Impact of Water Filter Usage

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Session Title:
Rising Stars of Research and Scholarship Invited Student Posters

Slot:
RS PST1: Sunday, 17 November 2019: 11:45 AM-12:15 PM

Applicable Category:
Academic, Students, Researchers

Keywords:
Community collaboration, Guatemala and Water Filtration

References:
Bibliographic References:


biosocial perspective on efforts to combat global inequities in diarrhea-related morbidity and mortality. *Global Public Health, 9*(7), 841–853. doi:10.1080/17441692.2014.924022


United Nations Children’s Fund. (2014). The state of the world’s


**Abstract Summary:**

The research team will conduct a household survey in summer 2019 to determine how community collaboration can influence the impact and use of household water filters on family health outcomes.

**Content Outline:**

**Background**

A collaborative partnership was established between La Union Centro Linguistico, a community-based health organization (CBO) in Guatemala, and East Carolina University College of Nursing 12 years ago to facilitate a cultural immersion program for health professions students. The program, based on US Peace Corps principles, includes Spanish language acquisition and cultural understanding. All students live with a Guatemalan family and interact with members of the community daily (Larson, Ott, & Miles, 2010). In 2013, this partnership expanded to include a Clean Water Project that addressed the need for household water filtration systems in one rural Mayan village (Larson, Hansen, Ritz, & Carreño, 2016). Since that time, the La Union-ECU Clean Water Collaborative has moved from one village to five villages. In this collaborative, investigators noted the clinical and practical significance of tabletop water filtration systems in reducing the incidence of diarrheal disease (Larson et al., 2016).

**Methodology**

This quasi-experimental study aims to build from these previous studies and compare the effect of community engagement on the use and impact of table-top household water filtration systems. In summer 2018, Corazon de los Niños, a non-profit community-based organization in Guatemala joined
our partnership when the Clean Water Project received financial donations to purchase and distribute 40 tabletop water filtration systems. The Director of Corazon de los Niños identified three Mayan communities in need. She proposed the distribution of 10 water filters to Community A, 10 water filters to Community B, and 20 water filters to Community C (the largest village). She then suggested that families “engage” with the Clean Water Project by providing a contribution of 40 quetzales (US$5.50) to ensure family ownership over the filters and to cover the medical and dental expenses of families in need. Families received instruction on the care, assembly, and storage (away from animals and in reach of children) of the water filters through several community forums led by ECU students and staff at La Union. Each filter was marked with the date for replacing the filter (May 2020).

**Research Question**

How does community engagement influence the impact and use of household water filtration systems among families in rural Guatemala?

**Sample and Setting**

All families (N=40) who received a water filter through the Clean Water Collaborative Project will be invited to participate. A community leader from Corazon de los Niños will accompany the two bilingual research team members to the homes of these families in the three villages in the Department of Sacatepequez.

**Data Collection**

Surveys will be conducted with the head of household in a private location, convenient to the family, either the community center or the home. A 10-item household survey about the use of the water filter, perceptions of the health benefits, and family health in the past year will administered with participating families. This survey was used in the previous water filter study (Larson et al., 2016), and be used for comparison.

**Data Management and Analysis**

Data will be entered into SPSS v. 22 in consultation with the ECU College of Nursing statistician upon returning to the United States in June 2019. All data will be stored in a located box in a locked office with our partner La Union. Consent form will be stored separately from the household survey data. Descriptive statistics and t-tests will be used to compare community-engaged households with comparison households.

**Topic Selection:**

Rising Stars of Research and Scholarship Invited Student Posters (25201)

**Abstract Text:**

The United Nations (UN) has called access to safe drinking water a human right and the UN Sustainable Development Goals marked the year 2030 for all people worldwide to achieve this goal. Access to safe drinking water can be achieved by the global health community working together with communities. Community engagement is essential to achieve this goal, yet the features of community engagement
that sustain public health initiatives, such as safe drinking water, are not well known. Based on a long-term international partnership, an interdisciplinary team of community and university partners will work with rural Guatemalan villages to determine how community engagement can influence the impact and use of household water filters on family health outcomes. We will use a quasi-experimental design using community-based participatory research principles to determine the effect of community engagement on the use and impact of table-top household water filters on family health. All families (N=40) who received a water filter through the Clean Water Collaborative Project in 2018 will be invited to participate. Household surveys will be conducted between May 20 and May 29, 2019 in three rural villages within the Department of Sacatepéquez, Guatemala. A community leader from Corazón de los Niños will accompany the two bilingual research team members to the homes of these families. A 10-item household survey about the use of the water filter, perceptions of the health benefits, and family health in the past year will be administered with participating families. This survey was used in the previous water filter study (Larson et al., 2016). Descriptive and correlational statistics will be used to a) evaluate use and impact of water filters on family health in three rural villages in Guatemala and b) compare use and impact of water filters on family health in three villages (n=40) with community collaboration to one village (n=56) without community collaboration. We will disseminate findings in a community forum in Guatemala May 2020 and through professional presentations and publications.