

PH062449 : HEALTH SYSTEM DEVELOPMENT PROGRAM

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RESPIRATORY, GASTROINTESTINAL, SKIN DISEASE, CAMBODIA  
CARMEN AURORA GARCIA: EFFECTS OF HABITAT FOR HUMANITY  
HOUSING IN THE HEALTH OF CHILDREN AND THEIR MOTHERS IN  
THREE COMMUNITIES IN GREATER PHNOM PENH, CAMBODIA.  
THESIS ADVISOR: ROBERT S. CHAPMAN, M.D., M.P.H., 84 pp.

In developing countries, children's diarrhea and acute respiratory illness constitute a significant portion of the global disease burden, and are linked to many factors including housing. I conducted a cross-sectional analytical study, the main purpose of which was to assess the effect of Habitat for Humanity housing on the health of children and their mothers in the communities of Khmer Kampuchea Khrom (KK), Samaki and Sen Sok in Phnom Penh, Cambodia. Two hundred ninety-four (294) households were surveyed (147 non-Habitat and 147 Habitat households). Each Habitat household was paired with a nearby non-Habitat household, whose socioeconomic situation was similar to that of households that qualify for the Habitat program. A standardized, pre-tested questionnaire was administered to the mother or other female caregiver. Respondents were asked to describe physical housing characteristics, and to report on their respiratory, gastrointestinal, and skin symptoms, as well as those of their children aged  $\leq 10$  years, during the last 4 weeks. Also, interviewers completed a checklist regarding physical housing characteristics. Concentrations of *coliform* bacteria and *E. Coli* were measured in drinking water samples from all households.

Habitat housing was clearly better than non-Habitat housing; differences in most surveyed physical housing characteristics, including toilet facilities, were highly statistically significant. This applied to both questionnaire-reported and interviewer-observed characteristics. Moreover, higher proportions of Habitat than non-Habitat residents perceived their house size and general housing condition to be adequate. Rates of boiling water, and concentrations of bacteria in drinking water, were similar in non-Habitat and Habitat households.

Reported symptom rates generally did not differ significantly between non-Habitat and Habitat households. Overall, symptom rates were very high, suggesting that risk factors other than physical housing play a very important role in the study communities. Certain specific housing characteristics were associated with symptom rates. For example, in households with adequate toilets, the mothers' rate of combined diarrhea and vomiting (8%) was significantly lower than that in households without adequate toilets (24%,  $p=.011$ ). The relationship of housing to health is complex. Housing is only part of a larger environmental and socioeconomic context, which may be especially important in Cambodia, which has one of the lowest socioeconomic indices in the region. Further analysis and research are needed to characterize the complex relationship of housing with health in Cambodia.

**Field of study** Health Systems Development **Student's signature** \_\_\_\_\_

**Academic year** 2006 **Advisor's signature** \_\_\_\_\_