

Housing conditions and survival of people with HIV infection in the Dominican Republic [ABSTRACT No. 138]

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BACKGROUND: Household conditions can affect health. Building materials, household hygiene, and factors such as cooking fuel and kitchen ventilation can be associated with disease. This investigation examined whether there was an association between household conditions and all-cause mortality for HIV-infected people.

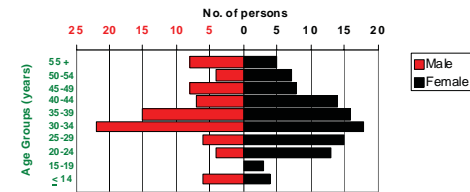
METHODS: Completion of a Dominican public health household survey that rated 13 separate characteristics (including construction materials, water security, and hygiene questions) was one component of home evaluations for families inscribed into an HIV/AIDS services project. 183 HIV-infected people were enrolled over 18 months (Apr 2005-Sep 2006); 134 of these HIV-infected people (73%) had household surveys completed (many people declined a home visit because of fear that it might compromise the confidentiality of their HIV status).

RESULTS: Mean follow-up was 435 days (median 456 days, range 1 –770 days). There was no association between any of the housing characteristics and all-cause mortality for the HIV-infected people (32 deaths). However, this project occurred during roll-out of HIV therapy in the Dominican Republic. During the first five months of this project, there was no reliable local source of antiretroviral therapy. For the subset of HIV-infected people inscribed during the first five months of the project (n = 51), there was a relationship between deaths and having animals (“Dog, cat, pig, others”) in the house (p = 0.05, Fisher exact test). Comparing people inscribed in the first five months (n = 51) to those from the subsequent 13 months (n = 132), there was a difference in the probability of survival favoring those entering after antiretroviral therapy was available (p = 0.03, log rank test).

DISCUSSION: With the exception of animals in the homes of the sub-group enrolled before antiretroviral therapy was available, household characteristics had no association with mortality in this small group of HIV-infected people. Availability of antiretroviral therapy at time of inscription was associated with an increased probability of survival. As antiretroviral therapy becomes more available in mid- and low-income countries, emphasis on providing antiretroviral therapy and home-based interventions in support of that therapy (such as adherence and nutrition services) may produce more impact than interventions aimed at improving the household environment.

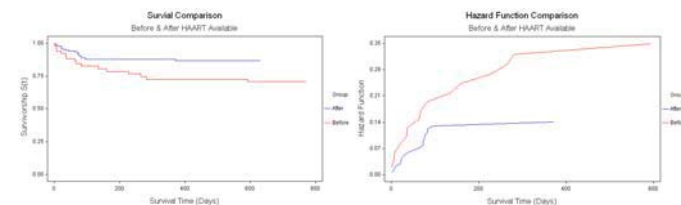
Results - Study Population

	Age (years)										Total
	≤14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	≥55	
Male	6	0	4	6	22	15	7	8	4	8	103
Female	4	3	13	15	18	16	14	8	7	5	80
Total	10	3	17	21	40	31	21	16	11	13	183



Results - Mortality

- There was no association between the 13 household characteristics and all-cause mortality (32 deaths).
- During the first five months when local sources of antiretroviral therapy were unavailable, having animals in the house (“Dog, cat, pig, etc.”) had a weak association with mortality (P = 0.05).
- Availability of antiretroviral therapy after the first five months of the project had an effect on mortality (Log-rank test, P = 0.03)(Illustration).



- Kaplan Meier survival and hazard functions for the groups entering the project:
 - Before HAART was available (N = 51, 15 deaths)
 - After HAART was available (N = 132, 17 deaths)

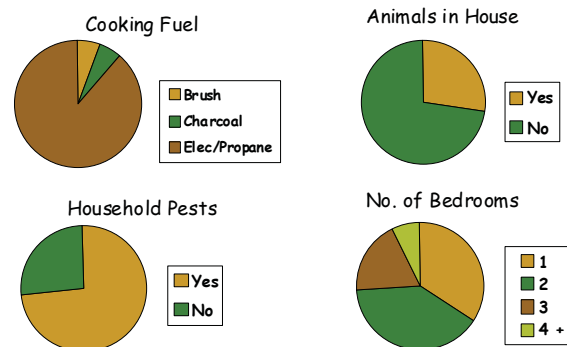
Log-rank test, P = 0.03

HAART = Highly Active Antiretroviral Therapy

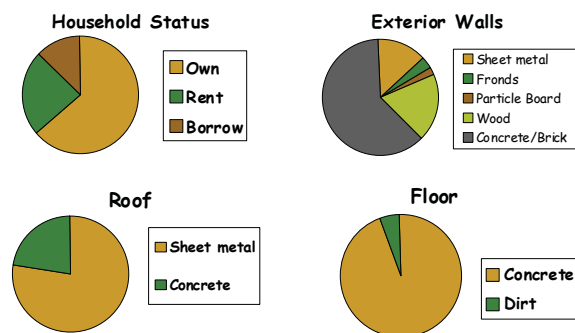
Results - Household Survey

- 138 homes (~98%) reported that they had electric service. However, service would frequently fail for hours (or days) and depended upon an informal distribution system (wires strung from house to house).
- Graphs below illustrate the results of the other items in the household survey.

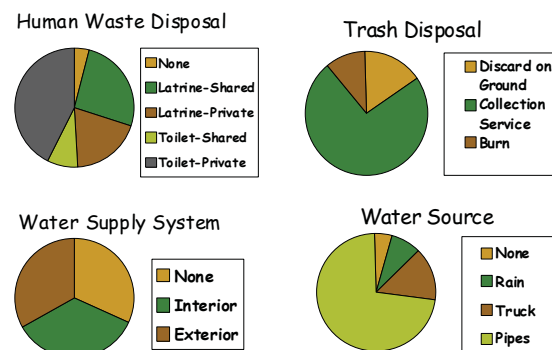
Household Survey Results



Household Survey Results



Household Survey Results



This study was approved by the University of Cincinnati Medical Center IRB.
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