Title: The Role of Household Environment on Adolescent Health Outcomes

Abstract

Introduction

Chronic illnesses have profoundly negative impact on the welfare of households, especially for the adolescents that live there. With no social welfare safety net, the physical capacities of individuals determine the household welfare status. Thus to understand how to improve the general welfare of households, it is important to understand what factors impact health status. This research study examines how the coping capacities of Kenyan households impact adolescent health status.

It is important to investigate the health risks of adolescents in Kenya as the number of orphans and foster children continue to increase. As an important human developmental stage before adulthood, adolescents need social and parental support to go through this period successful (DeBellis, 1999; Taussig, 2002). Children growing up in these households may face many challenges and deprivations that could affect them over life time (March *et al.*, 1998; Perrin *et al.*, 2000). These challenges may include:1) difficulty in getting food and shelter; 2) serious threats to their education because of poverty; 3) a higher risk of being sexually abused by neighbors and relatives; 4) more child prostitution and child labor; and 5) more likelihood of pursuing life on the street (LaFraniere, 2005; Lalor, 2004; Nyambedha et al., 2003).

Method

The data for this research study comes from the 2003 Kenya Demographic and Health Survey (KDHS) (Kenya Central Bureau of Statistics (CBS) *et al.*, 2004). There were 8,195 women interviewed and using the adolescence definition the sample was reduced to 3,547. Of these 1,820 (52.3%) were between 15-19 years of age. Out of 2,378 male headed household, 8.6 percent were adolescents and 1,171 female headed household, 18.0 percent were adolescents.

Analysis

Most of the respondents (66% Table 1) lived in adult headed households and the fewest, 13%, lived in adolescent households. When the marital statuses of the respondents are examined by household type in Table 1, we see that in female headed households most of the young women are not married. In male headed households the pattern is a little different, most living in an adolescent headed household are married but most are not married in adult and elderly-headed households.

The wealth index distribution in Table 1 for the households of the female respondents indicates some interesting differences. In female headed households, the general pattern in adult and adolescent headed homes is for an increase in the number in each category going from poorest to richest (with the exception of more being in the poor than poorest for adolescent-headed). A different pattern emerges for the female elderly headed households. The fewest are in the richest category, followed by rich and the other three categories have fairly similar numbers of respondents. Adult male-headed households predominantly fall in the rich or richest categories. In male adolescent headed households the highest proportion of households are in the poorest and richest wealth categories. For the elderly, slightly more are in the middle and rich categories than in the others.

Finally, an analysis of data showed that 1,319 (37%) of the respondents in the sample reported some form of illness in the last two weeks before being interviewed. Respondents living in male adolescent headed households had the highest reported sickness rate of 66% and were followed by female adolescent headed households at 55%. Respondents living in adult female headed household had the lowest reported sickness at 20%. These results suggest a significant

relationship may exist between attributes of the household and reported signs of illness for the adolescent.

The hypothesis for this study is that a relationship exists between adolescent respondents' health and their household type as defined by the gender and age group of the head of the household and associated resource availability. A hierarchal multivariate regression was conducted to test the hypothesis. A three level model was created, with demographic variables used in the first level, then head of the household variables and lastly the wealth index. The results support our hypothesis.

Results

Table 2 displays the results from the hierarchal regression analysis. It indicates that in the first model 40.6% (Adjusted R^2 =.406) of the variance was accounted for when just looking at the adolescent demographic variables. The second model improved to only 40.8% (Adjusted R^2 =.408) of the variance that was accounted for when the age and gender of household head were added. The third model improved to 41.9% (Adjusted R^2 =.419) of the variance that was accounted for when wealth index was added. Thus, there was a small increase in the adjusted *R* Square from .408 to .419. The ANOVA table reports a significant F statistic for all models. In the first model, all the variables were significant at p<.0001. Age was positively correlated, indicating older adolescents had higher reported incidence of sickness. Education level was negatively correlated with illness reports and suggests staying in school could help reduce negative health outcomes. Those adolescents who were not married seemed to have better health outcomes than those who were. In the second model, gender of the head of the household was not significant but age was at p=.003. Living in a prime-aged adult household helped lower the

signs of illness for the adolescents in the sample. In the last model the wealth index variable was significant at $p<.0001$ and implied an increase in wealth helps reduce negative health outcomes.

Conclusion

The implication of these results to policy makers should be that leaving adolescents on their own or with elderly relatives may end up increasing the cost of health care in those communities with large numbers of adolescent- and elderly-headed households. Providing female adolescents in non-adult headed households with options other than early marriage may help their chances of living a healthy life. Wealth is tied to health status; policy-makers should examine ways to protect the assets of youth when their parents die. For the adolescent, poor physical health could have an impact on their education, ability to earn a living, and physical growth. Their whole quality of life would be affected and they may not be very productive members of their community just at the time when they are developing into able-bodied adults, the bedrock of any society.

Reference

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Table 1

Indicators of Household and Female Respondent (age 15-24) Status

	Adult Headed Household	Adolescent Headed Household	Elderly Headed Household
Age range of Household Head	25-55	15-24	< 55
# Female Adolescent Respondents	2344	455	731
Gender of Household Head by # Adolescent Respondents			
Female HH***			
15-19	435 (65%)	57 (23%)	143 (63%)
20-24	234 (35%)	187 (77%)	84 (37%)
Male HH***			
15-19	766 (46%)	120 (57%)	299 (59%)
20-24	909 (54%)	91 (43%)	205 (41%)
Respondent Martial Status			
Female HH***			
Not Married	598 (89%)	128 (52%)	187 (82%)
Married	71 (11%)	116 (48%)	40 (18%)
Male HH***			
Not Married	904 (54%)	23 (11%)	411 (81%)
Married	771 (46%)	188 (89 %)	93 (19%)
Respondent highest level of education			
Female HH*			
No Education /Incomplete	46 (6%)	35 (15%)	27 (12%)
Primary	400 (60%)	138 (56%)	148 (65%)
Secondary	192 (29%)	63 (26%)	44 (19%)
Higher	31 (5%)	8 (1%)	8 (4%)
Male HH***			
No Education /Incomplete	167 (10%)	33 (16%)	55 (11%)
Primary	1004 (60%)	146 (69%)	285 (56%)
Secondary	423 (25%)	30 (14%)	141 (28%)
Higher	81 (5%)	2 (0.1%)	23 (5%)
Wealth Index in the Respondent's Household			
Female HH***			
Poorest	89 (13%)	40 (16%)	50 (22%)
Poorer	113 (17%)	26 (11%)	54 (24%)
Middle	133 (20%)	42 (17%)	56 (25%)
Richer	143 (21%)	42 (17%)	40 (18%)
Richest	194 (29%)	92 (39%)	27 (11%)
Male HH***			

Poorest	232 (14%)	49 (23%)	89 (18%)
Poorer	235 (14%)	31 (15%)	102 (20%)
Middle	226 (13%)	41 (19%)	118 (23%)
Richer	306 (18%)	31 (15%)	126 (25%)
Richest	679 (41%)	59 (28%)	71 (14%)
Respondent reported Sickness			
Female HH***			
No Reported Sickness	535 (80%)	111 (45%)	161 (71%)
Reported Sickness	134(20%)	133 (55%)	66(29%)
Male HH***			
No Reported Sickness	977 (58%)	72 (34%)	355 (70%)
Reported Sickness	698(42%)	139(66%)	149(30%)

* p<.05, ** p<.01, *** p<.001

Table 2: OLS Results for Female Adolescent Incidence of Illness (0-14) (N=3,546)

	Model 1	Model 2	Model 3
Intercept	-2.056***	-1.905***	-1.737***
Current age – respondent (15-24)	0.148***	0.147***	0.153***
Highest educational level (1=none...4=higher ed.)	-0.215***	-0.208***	-0.124***
Marital Status: (1=married/cohabiting)	1.331***	1.331***	1.308***
Gender of household head (1=male)	---	0.046	0.024
AgetypeHH: 1=Adolescent, 2=Elderly, 3=Prime Adult	---	-0.080**	-0.070**
Wealth index (1=poorest…5=richest)	---	---	-0.117***
Adj. R-square	0.406	0.408	0.419
F-value	809.490***	489.324***	426.798***

Source: Kenya Demographic and Health Survey 2003
* p<.05, ** p<.01, *** p<.001