Women's Health Behavior in Ghana: Effects of Education, Residence, Lineage, Self-Determination and Social Support Networks

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ABSTRACT

Women's health behaviour was analyzed using the couple's dataset of the 2003 Ghana Demographic and Health Survey (GDHS). The GDHS is a nationally representative survey providing data to monitor the population and health situation in Ghana.   In this study only the female members of the 2132 couples were analyzed. Results revealed a consistent positive educational effect on hygiene and prevention behaviour. Urban living provided consistent positive results for hygiene and malaria prevention but did not contribute significantly to responsible sexual behavior. There were mixed results for matriliny. There was evidence that self determination and social support variables added explanatory power in the models. For malaria prevention, these variables added explanatory power but did not mediate any effects of education, residence, or lineage. With hygiene behaviour, the self determination and support network variables explained additional variance and mediated some of the effects of the demographic variables.

INTRODUCTION

The study examined women's health behaviour in Ghana with respect to hygiene, malaria prevention and responsible sexual conduct. Factors examined as they affect health behaviour include the roles of education, rural-urban residence, self-determination, gender role norms with respect to women's rejection of domestic violence, and social support networks. Research on urbanization in developing countries (Adomako-Ampofo, Alhassan, Atobrah, Dortey & Ankrah 2004; Benefo, 2006; Coast, 2006; Dodoo, Sloan & Zulu, 2003; Dodoo, Zulu & Ezeh, forthcoming; Hoffman et al 1997; Little, 1972; Potts, 1997; Zulu, Dodoo & Ezeh, 2002) suggest that when women living in urban areas gain in reproductive self determination and also in financial autonomy over their reproductive and family health decisions, it improves women's health behavior and well being.

The increased self determination may well occur through a transformation of traditional attitudes to modern ones which endorse small family size and women's rights. It also is likely to be affected by changing social support networks and attitudes about women's self determination encouraged in those networks. Likewise, traditional norms associated with gender and power which favor male dominance, even to the point of endorsing domestic violence against women and requiring them to seek permission from their husbands to access reproductive health services, should change as women enjoy the benefits of education and the modernization generally associated with urban living (Coast 2006; Little, 1972; Potts, 1997).

Women's autonomy and participation in family affairs is positively related to education and is frequently assumed to increase if she lives in an urban area. Also, in urban area she is likely to be exposed to a broader range of information sources which should benefit her health behavior. From the literature, it is not clear whether differences in health behaviour between urban and rural women and educated and less educated

women may actually be due to differences in their self determination or in their support networks.

BACKGROUND AND CONTEXT

Ghana is located in West Africa and borders the Gulf of Guinea, between Cote d'Ivoire and Togo in the southern end. The capital city, Accra, is situated on the Atlantic coast. There are over one hundred different ethnic groups and languages spoken in Ghana. Some of the major ethnic groups are Akan, Ga/Adangbe, Ewe and Dagbani.

Gender disparities, which plague most of the developing world, also pose problems in Ghana. For example, Ghanaian women lag behind men in educational attainment. The Ghana Living Standards survey shows that 44.1 percent of women compared to 21.1 percent of men had no formal education. Similarly, the Ghana Demographic and Health Survey of 2003, shows that nearly 50 percent of women have no schooling, 30 percent have secondary (both junior and senior secondary) and only 2 percent have higher education.

Factors such as poverty, early marriage, and teenage pregnancy prevent females from continuing their education to the tertiary level. The consequence is that the majority of women who have neither higher education nor marketable skills are unable to obtain jobs in the formal sectors. Therefore women, as well as men, migrate to cities in search of better life. Most of these young women work long hours to support their families back home in the rural areas and face many difficult challenges including lack of access to health care.

METHODS

The data source for this study was the 2003 Ghana Demographic and Health Survey, GDHS, a nationally representative survey of 5, 691 women ages 15 – 49 and 5,015 men ages 15 – 59 from 6, 251 households covering 412 sample points throughout Ghana. Of the couple's dataset analyzed, consisting of 2133 couples, only female respondents were considered. The survey used a two-stage sample based on the Ghana 2000 Population and Housing Census and was designed to produce separate estimates for key indicators for each of the ten regions in Ghana. Data collection took place over a three-month period, from late July to late October, 2003 by the collaborative efforts of the Ghana Statistical Service (GSS) and the Noguchi Memorial Institute for Medical Research and the Ghana Health Service. Technical and funding assistance was provided by ORC Macro through the MEASURE DHS program and USAID respectively.

MEASURES

Items were selected based on their face validity and were recoded and summed to form scales. All scales were created such that high scores reflected behaviors that should promote women's health (i.e., that she has no problem with physical or psychological access to health care). Three dependent variables included were, "hygiene prevention behavior', malaria prevention behaviour and "responsible sexual behaviour ". Independent variables were classified into three categories as demographic and self-determination and social support variables. Demographic variables included the

respondent's educational level, age, number of children aged five years and below, current residence in rural or urban area and lineage (patrilineal or matrilineal). The self-determination indicators were variables constructed from a set of items tapping: a) whether a woman reported that she had a final say in family matters; b) whether she reported that she had a final say in purchase decisions and c) whether she rejected domestic violence as an acceptable norm of men's behavior toward their spouses. The self-determination variables were Women's final say in family matters, women's final say in purchase decisions and Women's rejection of domestic violence. The social support variables included three measures of women's family planning support networks identified as reproductive health support networks (RHSN), familial support for family planning (FSFP) and network sources for family planning (NSFP).

Preliminary data analysis used descriptive, bivariate and multivariate (three model) statistical analysis to examine relationships between demographic factors (in particular, education level, rural/urban residence, age, number of children under six years (parity), lineage type on self-determination factors that affects women's health behaviour decisions. It was tested whether women's education, age, parity, residence and lineage affect her self-determination (namely: her say in purchase decisions, say in family matters and her ability to reject domestic violence).

Secondly, the analysis examined the impact of several demographic indicators (education level, age, parity, current residence, lineage (patrilineal & matrilineal) and self-determination on health behaviour outcomes. It was tested whether in addition to the demographic variables; women's self determination and social supports explained additional variance in her health behaviour. If the effects of demographic variables on the outcomes were reduced by the inclusion of the self-determination variables, we could conclude that these factors mediated the effects of specific demographic variables on health behaviour. Alternatively, if the self-determination and social supports variables added explanatory power but the effects of the demographic variables on outcomes are not reduced, we could conclude that the models are additive rather than mediating.

RESULTS AND DISCUSSION

Tables 1 and 2 show a consistent positive educational effect on hygiene and malaria prevention behaviour which is consistent with a large body of scholarship showing the positive effects of women's education on her and her family's health (Akin 2005; Gisselman 2006; Onah *et al.* 2006). There may be different reasons underlying the effects of education on different outcomes. With respect to hygiene behaviour, an educated woman may be more aware of the importance of hygiene to safeguard the health of her family. In similar ways, women who have education should have more access to family planning information, more income to purchase condoms, as well as the confidence to use contraception and thus exercise responsible sexual behaviour (Table 3).

Urban living provided consistent positive results for hygiene and malaria prevention. It did not significantly improve responsible sexual behavior, which is surprising because urban women should have more information about and access to condoms and contraception as well as support networks that would encourage responsible sexual behaviour (Table 3). The positive effects on women's health of urban living are consistent with other work (Coast 2006; Hoffman *et al.* 1997; House 1987). Unlike education and urban living, there were mixed results for matriliny. It showed consistent

positive effects on responsible sexual behaviour (Table 3). In matriliny, women's autonomy over resources and assets is assured; women control their own money and husbands have no right to dictate how they should spend their earnings. It could be that women's control of wealth in this way makes it possible for them to implement their sexual health intentions. Dodoo (1995) and DeRose (2003), talk more about how the autonomy of women with matrilineal lineage translates into control over fertility decisions, although recent work suggests that husbands' decisions are also contributing to lower fertility in Ghana (DeRose & Ezeh, 2005).

At the same time, matriliny reduced the odds of engaging in malaria prevention. The lack of association between matriliny and malaria prevention may simply reflect the geographical location of matrilineal groups, which, although located in forest areas, are not in close proximity to large water bodies such as are found in the Volta region, which is predominantly patrilineal. In Ghana, mosquitoes are highly endemic in the Volta region because of the location of the Volta Lake. Since the anopheles mosquito does not travel more than 2 kilometers, most malaria cases occur in and around that region. This region, identified as the number one region where mosquito nets are used (GSS, 2004), is also a patrilineal region.

CONCLUSION
The strong association between proactive social and familial support networks and health behaviour means that proactive social and familial networks that promote sharing of resources, financial assistance and self-help initiative would enable women to improve their health behaviour. Similarly, the strong association of proactive social and familial support networks with responsible hygiene and sexual behaviour means that networks that facilitate discussion of family planning, condoms and provide education about ways to avoid health risks associated with poor sanitary conditions and unprotected sex may be helpful in encouraging women to talk about their situations and to take necessary steps to address them. Policies that are affordable, and increase education and access to resources, information and transportation are clearly called for.

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Table 1. Odds ratios and standard errors for logistic regressions predicting involvement in malaria prevention among Ghanaian women

	Model 1			Model 2			Model 3		
	(B)	Odds Ratio	S.E.	(B)	Odds Ratio	S.E.	(B)	Odds Ratio	S.E.
Demography									
Constant	-.252	.78	.248	-.281	.76	.256	-.279	.756	.259
Education level (0-1)	.381	1.46***	.116	.376	1.44***	.015	.348	1.42**	.127
Age	-.019	.982***	.007	-.016	.984**	.008	-.016	.984*	.007
Number of children under 6	.116	1.12	.069	.115	1.12	.085	.110	1.12	.069
Residence (rural-urban) (0-1)	-.705	.494***	.129	-.731	.481***	.153	-.727	.483***	.134
Lineage (patriliny/matriliny) (0-1)	-.979	.376***	.126	-.924	.397***	.101	-.932	.394***	.129
Self Determination									
Final say, family matters (0-2)				.231	1.26**	.080	.235	1.26**	.081
Final say, purchase decision (0-3)				.001	1.001	.035	.007	1.01	.064
Rejects domestic violence (0-5)				.055	1.06*	.311	.055	1.06*	.029
Support networks									
RHSN (0-2)							-.142	.868	.189
FSFP (0-2)							.248	1.282	.151
NSFP (0-3)							.053	1.054	.099
Model Summaries									
N	2133			2133			2133		
Improvement X^2 (-2 Log likelihood)	2369.52			2350.21			2344.91		
Degrees of freedom	1			1			1		
Nagelkerke R^2	.082			.092			.095		
Significance	.000			.000			000		

Significance levels: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Note: Values in brackets indicate number of categories in independent variables (see Table 1)

RHSN = Reproductive health support networks; FSFP = Familial support for family planning;
NSFP = Network sources for family planning. Cases were excluded listwise except where cases were missing..

Table 2. Odds ratios and standard errors for logistic regressions predicting hygiene behaviour among Ghanaian women

	Model 1			Model 2			Model 3		
Demography	(B)	Odds Ratio	S.E.	(B)	Odds Ratio	S.E.	(B)	Odds Ratio	S.E.
Constant	.199	1.22	.287	.351	1.42	.299	.190	1.21	.305
Education level (0-1)	.235	1.26	.139	.346	1.41*	.144	.163	1.18	.151
Age	.001	1.00	.007	.010	1.01	.008	.013	1.01	.008
Number of children under 6	-.038	.963	.079	-.025	.975	.081	-.017	.983	.082
Residence (rural-urban 0-1)	.549	1.73***	.159	.565	1.76***	.163	.403	1.496**	.169
Lineage (patrilineal/matrilineal) (0-1)	.226	1.24	.134	.052	1.05	.141	.048	1.05	.142
Self Determination									
Final say, family matters (0-2)				.248	1.282**	.098	.348	1.42**	.098
Final say, purchase decision (0-3)				.110	1.12	.073	.115	1.12*	.074
Rejects domestic violence (0-5)				.004	1.01	.035	.013	1.013	.035
Support networks									
RHSN (0-2)							.084	1.09	.228
FSFP (0-2)							.022	1.02	.182
NSFP (0-3)							.227	1.26*	.120
Model Summaries									
N	1228			1228			1228		
Improvement X^2 (-2 Log likelihood)	1651.80			1612.24			1593.20		
Degrees of freedom	1			1			1		
Nagelkerke R^2	.025			.061			.080		
Significance	.000			.000			.000		

Significance levels: *** p< 0.001; ** p < 0.01; * p < 0.05

Note: Values in brackets indicate number of categories in independent variables (see Table 1)

RHSN = Reproductive health support networks; FSFP = Familial support for family planning;
NSFP = Network sources for family planning. Cases were excluded listwise except where cases were missing..

Table 3. Odds ratios and standard errors for logistic regressions predicting responsible sexual behaviour among Ghanaian women

	Model 1			Model 2			Model 3		
	(B)	Odds Ratio	S.E.	(B)	Odds Ratio	S.E.	(B)	Odds Ratio	S.E.
Demography									
Constant	.410	1.51	.264	.366	1.44	.274	.118	1.13	.280
Education level (0-1)	.303	1.35**	.118	.253	1.29*	.122	.038	1.04	.129
Age	-.003	.997	.007	-.007	.993	.007	-.003	.997	.007
Number of children under 6	.018	1.018	.071	.019	1.02	.071	.013	1.01	.072
Residence (rural-urban) (0-1)	.146	1.16	.118	.151	1.16	.120	.010	1.01	.125
Lineage (patriliny/matriliny) (0-1)	.343	1.41***	.117	.251	1.29*	.121	.266	1.31*	.123
Self Determination									
Final say, family matters (0-2)				.046	1.047	.085	.009	1.01	.086
Final say, purchase decision (0-3)				.206	1.23***	.067	.185	1.21**	.067
Rejects domestic violence (0-5)				.039	.962	.031	.049	.953	.032
Support networks									
RHSN(0-2)							.053	1.05	.198
FSFP (0-2)							.180	1.20	.162
NSFP (0-3)							.281	1.32***	.103
Model Summaries									
N	1714			1714			1714		
Improvement X^2 (-2 Log likelihood)	2157.95			2128.90			2082.12		
Degrees of freedom	1			1			1		
Nagelkerke R^2	.024			.043			.076		
Significance	.000			.000			.000		

Significance levels: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Note: Values in brackets indicate number of categories in independent variables(see Table 1)

RHSN = Reproductive health support networks; FSFP = Familial support for family planning;

NSFP = Network sources for family planning. Cases were excluded listwise except where cases were missing..