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Abstract: Although maternal health in Ghana has generally improved over the past two decades, the current MMR implies that Ghana's MMR is approximately 2.4 times higher than the set target in MDG 5. Using data from the Ghana Demographic and Health Survey 2008, an attempt is made in this study to investigate the rural-urban differences in maternal health care (antenatal and delivery care) service utilization in Ghana. Most previous studies focused more broadly on the utilization of MHC services either in the entire country or some parts of the country. This study fills the gap by looking at women from the rural and urban areas with varying standards of living and other socioeconomic attributes. The study also includes some women autonomy variables to find out their effect on MHC service utilization in both areas. Lastly, an attempt is also made to investigate the effect of informal education on the use of MHC services using a logistic regression model. The results from the rural sample show that, women with some degree of autonomy are more likely to use MHC services than their counterparts who lack such autonomy. Again, informal education through the media is more effective in the rural areas than in the urban areas, and wealth still remains an issue particularly in the urban areas.

Keywords: rural-urban, maternal health, autonomous, informal education, Ghana

Introduction

Good maternal health is very essential to a country's growth and development process. Hence a reduction of the maternal mortality ratio (MMR) is one of the millennium development goals (MDG 5). Approximately 536,000 maternal deaths occur yearly and nearly 95 percent of this figure occurs in Sub-Saharan Africa and Asia. The risk of maternal death in Sub-Saharan Africa is 1 in 22 mothers compared to 1 in 210 mothers in Northern Africa, 1 in 62 for Oceania, 1 in 120 for Asia and 1 in 290 for Latin America and the Caribbean (Babalola and Fatusi 2009).

Ghana, like most developing countries, has a high maternal mortality rate. The MMR is estimated to be 451 deaths per 100,000 live births (2008 MDG Report). Usually, the estimated maternal deaths recorded are based on deaths that occurred in health facilities, hence, do not include women who die silently in communities and are quietly buried without registration. Over the years, Ghana has come out with a number of policies and strategies to attain an improvement in the health of pregnant women and their babies. For instance, the government of Ghana declared maternal mortality a national emergency and granted free access to maternal health care (MHC) for all women from pregnancy to one year after birth in July 2008 in order to overcome the main cost barrier to safe birth. This initiative was funded through a grant of 90 million US Dollars from the United Kingdom government (2008 Ghana MDG Report). Initiatives like Focused Antenatal Care (FANC) and provision of Comprehensive Abortion Care were introduced in order to contribute to the reduction in maternal mortality by three-quarters by the

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year 2015 as set in the MDGs (GHS Report 2009).

Though Ghana is making progress in terms of achieving the first target of the MDGs; which is to eradicate extreme poverty and hunger, achieving an improvement in maternal health as in MDG five (5) is off-track. If the current reduction trend in maternal deaths from 740 deaths per 100,000 live births to 451 deaths per 100, 000 live births between the period 1990 and 2008 continues, maternal mortality will reduce to only 340 deaths per 100,000 live births by the year 2015 and with this, Ghana will not be able to meet the MDG target of 185 deaths per 100,000 live births by 2015 (2008 Ghana MDG Report).

Most studies on MHC service utilization have revealed that, the decision to use these services is influenced by a vector of factors. Interestingly, while certain factors were found to be significant in determining the use of MHC services in some studies, those factors were insignificant in other studies. In order to give some insights on how decisions concerning safe motherhood services are made by expecting mothers and women in general, Appiah-Kubi (2004) revealed that, access and utilization levels of MHC services are still low even though there has been a considerable progress over the time. Using the 1998 GDHS, it was revealed that, the most influential variables in predicting the use of MHC services are education of both parents, regional location of residence and their socio-economic status (Appiah-Kubi 2004). Overbosch et. al. (2004), also investigated the determinants of antenatal care use in Ghana based on the data provided by the Ghana Living Standard Survey Round Four (GLSS 4). The estimated results showed that, income, cost of consultation and distance travelled to the health care facility were significantly associated with the demand for ANC services. According to the study, a special targeting of ANC utilization according to religion is unnecessary because the variable was statistically insignificant in the estimation.

Examining women's access to health care in Ghana with data from the 2003 GDHS, the results by Boateng and Flanagan (2008) revealed that, a woman's educational level and living in an urban area positively affect her physical access to health care. Urban residents have higher prospects of accessing health care in Ghana because these facilities are relatively more available in the urban areas than the rural areas. The extent to which household income and access to health information influence the demand for institutional delivery (any delivery that occurred in a modern health facility and was assisted by a medically trained professional) in Ghana was investigated by Nketiah-Amponsah and Sagoe-Moses (2009). Focusing on women between 15 and 49 years who had at least one live birth between October 2002 and October 2007, income and access to health information were found to be important determinants of institutional delivery in some selected districts of Ghana. Surprisingly, maternal education was insignificant in their study and this contradicts the findings by Boateng and Flanagan (2008) that a woman's educational level positively affects her physical access to health care.

From the above studies, generally, a woman's decision to seek MHC services is determined by a number of factors. While these factors are necessary, it would be interesting to investigate the factors that influence the use of MHC services, particularly, antenatal and delivery care services utilization in Ghana in a rural-urban perspective. In addition, we test for the effect of informal education and women's autonomy on the utilization of these maternal health care services. Women autonomy as used in this study refers to the ability of women, particularly those in their reproductive stage (between 15 years and 49 years) to independently make decisions that concern lives.

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Overview of Antenatal and Delivery Care Services in Ghana
Antenatal Care

In Ghana, a settlement of at least 5,000 of the population is considered an urban area, while a community with a population of less than 5,000 is classified as a rural area. There exist some appreciable differences between the rural and the urban areas in terms of the population density, infrastructure availability, the educational attainment of the residents and the availability of basic amenities (Boakye-Yiadom, 2004). Most rural areas lack basic infrastructure and amenities like adequate health and educational services, potable drinking water, good roads, etc. Like in most countries in Sub-Saharan Africa, maternal death in Ghana happens to be a burden in the rural areas, where about 60 percent of the country's population reside (Heyen-Perschon 2005). Complications of pregnancy and childbirth are the major cause of death for women of reproductive age in Ghana (Nyarko et al. 2006). The main objective of ANC is to promote and maintain the health of pregnant women. It identifies and treats problems during pregnancy such as anemia and infections by establishing contact with pregnant women (GHS Report, 2007). During ANC visits, screening for complications and advice on a range of issues including birth preparedness, place of delivery and referral of mothers are made (GDHS Report 2008).

In Ghana, midwives and other mid-level providers make up the largest proportion of health professionals providing antenatal care except for the Greater Accra region, where ANC provided by midwives and other mid-level providers is almost equal to that provided by doctors (GDHS Report 2008). Doctors are generally the most expensive providers of MHC services particularly for ANC services based on the prices they charge for a visit followed by midwives, nurses or medical assistants. However, the traditional providers are the cheapest means of providing such MHC service (Overbosch et al. 2004). According to the 2007 GHS Report, the new strategy for delivering ANC service in Ghana is the focused antenatal care (FANC) service. The FANC strategy was introduced at a stakeholders' meeting with the United States Agency for International Development (USAID) and other development partners like the WHO, United Nations Population Fund (UNFPA) and the Ministry of Health. The WHO focused ANC package was adopted in 2002 and encourages a minimum of four ANC visits. That is, before the 16th week, at the 26th week, 32nd week and the 36th week of pregnancy (Nyarko et al. 2006).

Unlike the previous antenatal care strategy that categorized the ANC clients into risk groups based on their previous obstetric history, medical conditions, age, parity, weight and laboratory investigations, the FANC strategy considers all pregnant women to be at risk and consequently do away with the risk assessment criteria (Nyarko et al. 2006). According to the report by the 2008 GDHS, although women in the urban areas were more likely than women in the rural areas to make four or more ANC visits, the percentage increase in the utilization between the period 2003 and 2008 was larger for women in the rural areas (from 61% to 72%) than for women in the urban areas (from 84 percent to 88 percent).

Tables 2.1 and 2.2 show both rural and urban coverage of ANC in percentages based on the service provider choice for the country between 1988 and 2008.

From Tables 2.1 and 2.2, it can be observed that, generally, the utilization of ANC services from a trained nurse, midwife, auxiliary midwife or a community health officer (CHO) was the highest, followed by utilization from doctors in both localities. However, in the urban areas, the utilization of ANC service from these providers was closely followed by the utilization from a doctor especially for the periods 1993 and 1998.

Table 2.1 Utilization of ANC Services in the Rural Areas

Period	Doctor	Nurse/Midwife/ Aux Midwife/CHO	Trained (TBAs)	Other	None	Total
1988	24.7	53.4	4.0	0.7	15.9	98.7
1993	19.1	62.4	0.6	1.4	16.4	99.9
1998	18.5	66.7	2.0	0.2	12.3	99.7
2003	13.7	74.9	1.6	-	9.2	99.4
2008	16.4	77.4	0.2	1.1	4.8	99.9

Source: Compiled from the GDHS Reports between 1988 and 2008.

Table 2.2 Utilization of ANC Services in the Urban Areas

Period	Doctor	Nurse/Midwife/ Aux. Midwife/CHO	Trained (TBAs)	Other	None	Total
1988	35.9	57.7	1.7	0.1	3.5	98.9
1993	46.0	50.7	0.0	0.2	3.2	100.1
1998	45.8	48.7	0.1	0.4	4.9	99.9
2003	33.7	64.2	0.4	-	1.2	99.5
2008	33.9	63.9	0.3	0.3	1.4	99.8

Source: Compiled from the GDHS Reports between 1988 and 2008

Delivery Care

Access to obstetric services from qualified health professionals is essential in preventing maternal deaths. Although ANC visits are necessary and have been recommended by the WHO, it does not guarantee a 100 percent safe delivery since any delivery is subject to complications. This therefore requires the presence of a skilled attendant in order to ensure a safe delivery. The International Conference on Population and Development (ICPD) held in Cairo in the 1994 targeted that by the year 2015, deliveries assisted by skilled birth attendants should reach 90 percent globally and 60 percent in countries with high maternal death rates of which Ghana is no exception (Odoi-Agyarko 2003).

Regarding the kind of assistance given during delivery, Ghanaian women are usually assisted during labor and delivery by a health professional (doctor, nurse/midwife or CHO), or the TBAs. In some cases, women in labor are assisted by a relative or no assistance at all is given (GDHS Report 2008). Typically in Ghana, a significant number of women do not seek the assistance of skilled personnel during periods of labor and delivery (GDHS Report, 2008). Whereas about 79 percent of births in the urban areas are supervised by a medical practitioner, only about 33percent of births in the rural areas are supervised by a medical practitioner. About 36 percent of births are supervised by midwives and the remaining third is unsupervised. Surprisingly, in some regions in northern Ghana, unsupervised delivery is the norm (Heyen-Perschon 2005).

Table 2.3 and Table 2.4 show the percentage distribution of assistance that Ghanaian women usually seek during delivery in both the rural and urban areas between 1988 and 2008.

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Table 2.3 Utilization of Delivery Care Services in the Rural Areas

Period	Doctor	Nurse/Midwife/ Aux. Midwife/CHO	Trained (TBAs)	Other	None	Total
1988	4.8	24.1	32.8	30.4	6.5	98.6
1993	2.7	26.8	19.4	45.4	5.5	99.8
1998	4.5	29.6	28.3	31.9	5.4	99.7
2003	2.6	28.3	40.3	25.5	2.5	99.2
2008	5.8	37.1	20.8	32.4	3.4	99.5

Source: Compiled from the GDHS Reports from 1988 to 2008

Table 2.4 Utilization of Delivery Care Services in the Urban Areas

Period	Doctor	Nurse/Midwife/ Aux. Midwife/CHO	Trained (TBAs)	Other	None	Total
1988	12.1	58.2	13.2	11.4	4.1	99
1993	16.5	64.7	4.7	11.5	2.5	99.9
1998	19.0	57.3	11.5	9.3	2.3	99.4
2003	14.6	65.1	12.1	6.2	1.5	99.5
2008	19.6	64.7	8.6	5.5	1.2	98.7

Source: Compiled from the GDHS Reports from 1988 to 2008

Tables 2.3 and 2.4, show a sharp contrast in the delivery care service utilization among rural and urban dwellers. For each period, the delivery care service utilization from nurse/midwife/auxiliary midwife/CHO was urban biased (accounting for more than half of the urban sample). Conversely, the utilization of delivery care services in the rural areas was mainly assisted by nurse/midwife/auxiliary midwife/CHO and trained TBAs.

In 1988, while most rural women were assisted by trained TBAs during delivery, their urban counterparts were mostly assisted by nurse/midwife/auxiliary midwife/CHO. The result for 1993 and 1998 indicate that more rural women (45.4 percent and 31.9 percent respectively), received delivery care assistance from "other providers" made up of untrained TBAs, relatives and friends. In the same period, most of their urban counterparts were assisted by nurse/midwife/auxiliary midwife/CHO even though the percentage of utilization decreased by 7.4 percentage points.

Overall, there was an improvement in institutional delivery in the urban areas since the percentage of women who did not seek any professional assistance during delivery decreased consecutively in all the five rounds of the survey. However, in the rural areas, even though this percentage decreased consistently from 1988 to 2003, it increased slightly in 2008 (from 2.5 percent to 3.4 percent), indicating that some women in the rural areas are beginning to lose confidence in institutional delivery.

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Data and Methodology
The main source of data for this study is the 2008 Ghana Demographic and Health Survey (GDHS 2008) which was planned and implemented by the Ghana Statistical Service and the Ghana Health Service. It is the fifth of its kind conducted in the country since 1988 and was designed to monitor the population and health situation in Ghana (GDHS Report 2008). The survey covers all the ten regions of Ghana with a sample of 11, 778 households made up of women between 15 and 49 years and men between 15 and 59 years. The women were asked questions about themselves and their children born in the five years since 2003 in the Women's Questionnaires. Some of the detailed information obtained by the survey are maternal and child health care, fertility, awareness and use of family planning services *inter alia*. With regard to the MHC, some of the components recorded in the survey include ANC services (number of visits, service provider, etc), delivery care (place, service provider, complication during delivery, etc), postnatal care (service provider, time of checkup, etc.) and tetanus toxic immunization (GDHS Report 2008). However, this study looks at antenatal and delivery care service utilization.

In all, a total of 4, 916 women in their reproductive age and 4, 568 men between 15 and 59 years from 6, 141 households were interviewed. The data collection took place over a three-month period from September to late November 2008 (GDHS Report 2008). The ICF Macro through the MEASURE DHS program provided technical support for the survey and the United States Agency for International Development (USAID), the Government of Ghana, the United Nations International Children's Emergency Fund (UNICEF), the United Nations Population Fund (UNFPA) and Danish International Development Agency supported the survey financially.

Method of Analysis and its Justification
In reality, individuals are confronted with a number of factors (economic, demographic, social, etc) simultaneously. Hence, a multivariate analysis is used to investigate how the independent variables interact to influence the utilization of MHC services in each locality.

In this study, the response for the dependent variable is either yes (where a pregnant woman uses any of the MHC services) or no (where she does not). In such a situation, using the Ordinary Least Square (OLS) method to estimate a linear function that has a binary outcome may not be appropriate. That is, the variance of the error term may depend on the explanatory variables, engendering the problem of heteroskedasticity (Jones, 2005). Given this limitation, the most appropriate options are either the logit or probit models. The logit and probit models assume that, there is some continuous latent variable (y^*) that determines participation in a certain activity. Where y^* presumably represents the individual's propensity to participate in the utilization of MHC services, if y^* is positive, then the individual will choose to participate and the observed binary outcome is one (1), otherwise, the outcome is equal to zero (0). Then the latent variable y^* is modeled by a linear regression function of the person (Jones 2005). This study assumes that the error terms are logistically distributed and adopts the logistic model as specified by Gujarati (2004) for the estimation purpose as:

$$Logit = \beta_1 + \sum_{i=2}^{k} \beta_i X_i + u_i$$

Where:
X_i = independent variables;

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β_1 = intercept;

β_i = regression coefficients and

u_i = error term

Results and Discussions

The independent variables are encompassing a variety of socio-economic and demographic variables. Also, two variables; "whether or not transportation and distance to a health facility is a big problem" are used to proxy financial and physical access respectively. In addition, the variables that are used as proxies to measure a woman's degree of autonomy are "relationship to household head," "who makes decisions concerning how to spend money" and "final say on her health care". For each MHC service considered in this study, the same sets of independent variables are used for both the rural and urban areas in order to enable a comparison between both localities.

Descriptive Statistics for the Dependent variables

Even though not every obstetric emergency can be predicted through antenatal screening, making at least four ANC visits is recommended for a safe delivery. Table 3.1 presents a summary of the extent of ANC service utilization in both the rural and urban samples by considering the percentage of women who either made at least four visits or less as recorded in the data.

From Table 3.1, a reasonable number of women did not make the recommended number of visits (27.74 percent of rural and 9.47 percent of urban women) even though the service is free in all public and some private and mission health institutions.

Where a woman delivers can affect her life and that of the baby either positively or negatively. Women who deliver in health facilities generally receive better care because such deliveries are assisted by a health professional. On the other hand, unsupervised deliveries are usually associated with higher risks that may negatively affect the woman's health and/or that of the baby since such women are less likely to receive professional assistance. Table 3.2 shows the extent of supervised delivery in both localities.

While supervised/institutional delivery in the urban sample was encouraging, that of the rural sample was not. The results from Table 3.2 indicate that more than half of the total deliveries in the rural areas (60.49 percent) did not take place in a health facility but only 16.44 percent of the total deliveries in the urban areas took place elsewhere.

Descriptive Statistics for the Categorical Independent variables

Table 3.3 describes the categorical independent variables used in this study based on the response in the 2008 GDHS. While more rural women and their partners had no formal education, most of their urban counterparts had at least secondary education. Similarly, most women in the rural sample were within the lowest wealth quintile, but most urban women were within the richer wealth quintile, indicating relatively better economic status for urban women. Interestingly, there were more unemployed women in the urban sample at the time of the survey than there were in the rural sample. Evidence from the descriptive statistics indicates that more than half of the rural women do not watch television at all but 41 percent of the urban women watch television more frequently. Distance and transport to a health facility were revealed to be more of a rural problem.

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Table 3.1 ANC visits in the Rural and Urban Areas

Place of Residence	Number of ANC visits	Frequency	Percentage	Cumulative
Rural	Less than 4 visits	342	27.74	27.74
	4 or more visits	891	72.26	100.00
	Total	**1,233**	**100.00**	
Urban	Less than 4 visits	64	9.47	9.47
	4 or more visits	612	90.53	100.00
	Total	**676**	**100.00**	

Source: 2008 Ghana Demographic and Health Survey.

Table 3.2 Delivery Care in the Rural and Urban Areas

Place of Residence	Place of Delivery	Frequency	Percentage	Cumulative
Rural	Elsewhere	1,084	60.49	60.49
	Health facility	708	39.51	100.00
	Total	**1,792**	**100.00**	
Urban	Elsewhere	145	16.44	16.44
	Health facility	737	83.56	100.00
	Total	**882**	**100.00**	

Source: 2008 Ghana Demographic and Health Survey.

Concerning the autonomy variables used in the study, the results showed that, even though more women in the urban sample had some power (either they made such decisions alone or with their partners) with regard to the final say on their health care than their rural counterparts, more than half of women in both samples had some degree of power here. Similarly, more than half of women in both samples had some power in deciding how to spend money. Finally, female-headed households were about 22 percent in the rural sample but female-headed households in the urban areas were about 34 percent of the total urban sample.

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Table 3.3 Descriptive Statistics for the Categorical Independent variables

Variable	Rural Percentage	Urban Percentage
Woman's educational level		
No education	52.85	23.1
Primary	22.5	22.28
At least secondary	24.65	54.62
Woman's age in years		
< 20 years	0.95	1.26
Between 20 and 35 years	36.33	35.78
35 years and above	62.71	62.96
Wealth Index		
Poorest	44.97	1.92
Poorer	29.11	7.81
Middle	16.52	23
Richer	7.42	34.57
Richest	1.98	32.7
Respondent currently working		
No	6.54	11.28
Yes	93.46	88.72
Frequency of reading newspaper/magazine		
None	97.04	83.54
Less frequently	1.41	7.06
Frequently	1.2	7.59
More frequently	0.35	1.81
Frequently of listening to radio		
None	25.48	11.64
Less frequently	7.31	8.44
Frequently	25.38	24.04
More frequently	41.83	55.88
Frequently of watching television		
None	70.73	27.34
Less frequently	7.44	9.47
Frequently	13.37	22.09
More frequently	8.46	41.11
Getting medical care for self: distance to health facility		
Big problem	42.34	17.89
Not a big problem	57.66	82.11

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Table 3.3 continued

Variable	Rural Percentage	Urban Percentage
Getting medical care for self: having to take transport		
Big problem	42.34	17.89
Not a big problem	57.66	82.11
Relationship to household head		
Head	21.89	33.65
Other	78.11	66.35
Final say on own health care		
Respondent alone/respondent and partner	66.11	72.51
Other	33.89	27.49
Who decides how to spend money		
Respondent alone/respondent and partner	90.07	96.83
Other	9.83	3.17
Birth order		
One	25.23	32.86
at least two	74.77	67.14
Partner's educational level		
No education	42.14	16.62
Primary	10.72	5.06
At least secondary	47.13	78.32
Distance and transport to health facility		
Not a big problem	63.55	86.61
A big problem	36.45	13.39
Educational level of both parents (Woman and her partner)		
No education	32.54	8.82
At least one educated parent	67.46	91.18

Empirical Results

Utilization of ANC Services

The logistic regression model is used to investigate which variables are significant in predicting the utilization of ANC services in each sample. Here, the dependent variable assumes a value of one (1) if the woman made at least four ANC visits and zero (0) if otherwise. Table 4.1 presents the findings from the model (marginal effects not reported).

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Table 4.1 Logistic Regression for the Utilization of ANC Services

Variable	RURAL		URBAN	
	Coefficient	P-value	Coefficient	P-value
Woman's educational level				
No education	-0.48	0.11	-0.14	0.84
	(-0.3)		(0.68)	
Primary	-0.51*	0.06	-0.95**	0.03
	(-0.27)		(0.43)	
Frequency of reading newspaper/magazine				
None	-11.43***	0.00	-13.38***	0.00
	(0.89)		(0.86)	
Less frequently	-11.97***	0.00	-13.65***	0.00
	(1.06)		(1.30)	
Frequently	-12.26***	0.00	-12.1***	0.00
	(1.06)		(1.27)	
Frequency of listening to radio				
None	-0.33	0.14	-0.01	0.98
	(0.23)		(0.52)	
Less frequently	-0.3	0.32	0.45	0.51
	(0.31)		(0.69)	
Frequently	-0.23	0.29	0.21	0.64
	(0.22)		(0.46)	
Frequency of watching television				
None	-0.88**	0.03	0.23	0.66
	(0.41)		(0.53)	
Less frequently	-0.45	0.37	0.06	0.94
	(0.50)		(0.73)	
Frequently	-0.46	0.32	0.09	0.85
	(0.46)		(0.50)	
Wealth				
Poorest	-1.45	0.20	-3.73***	0.00
	(1.14)		(1.23)	
Poorer	-1.60	0.16	-0.61	0.42
	(1.13)		(0.75)	
Middle	-1.48	0.19	-1.44***	0.01
	(1.13)		(0.57)	
Richer	-0.96	0.40	0.17	0.75
	(1.14)		(0.55)	
Birthorder1	-0.19	0.50	0.46	0.47
	(0.28)		(0.63)	
Transportation to health facility				
Not a big problem	-0.34	0.43	0.84	0.39
	(0.43)		(0.98)	

The educational level was categorized into "no education," "only primary education" and "at least secondary education". Using women with at least secondary education as the reference category, only primary education was significant in determining the use of ANC services in both samples. The coefficient for primary education was significant at 10 percent and 5 percent levels in the rural and urban samples respectively. In the rural sample, the probability of making at least four ANC visits by women with only primary education is 10 percent less than those with at least a secondary education. On the other hand, the probability of urban women with only primary education making the recommended number of ANC visits is 5 percent less than the probability of the reference category. The association between education and the use of ANC services is

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supported by existing empirical studies including Elo (1992), Kausar et al. (1999) and Mekonnen and Mekonnen (2002). In these studies, education was revealed to increase an individual's understanding of the use modern health care services including ANC services. In Ghana, Boateng and Flanagan (2008) found that women's educational level and the use of ANC services are positively associated.

The extent to which a woman can influence household decisions is believed to influence her health care decisions, hence being one of the key hypotheses tested in this study. Two out of three variables used in this study to measure a woman's degree of autonomy were significant in the rural sample. In contrast, in the urban sample, only one autonomy variable was significant. This might be probably due to the fact that most urban women in Ghana are involved in household decision-making because of their empowerment through formal education than their counterparts in the rural areas. This is evident from the descriptive statistics whereby majority (52.85 percent) of rural women were uneducated compared to their urban counterparts (23.10 percent).

While the coefficient of female-headed household had a positive association with the dependent variable in the rural sample, the relationship was negative in the urban sample (both at 10 percent significance level). Thus, the probability of making at least four ANC visits by rural women who are household heads is 8 percent more than the probability of non-female-headed households. On the contrary, the probability of female heads of households in the urban areas is 4 percent less than that of the reference category with regard to making at least the recommended number of ANC visits. This negative relationship may be as a result of the extra responsibilities that the woman receives for being a household head in addition to her domestic chores. This leaves little or no time left for her to utilize such health care services regularly.

With regard to decisions concerning how to spend money, the variable was revealed to be positively significant only in the rural sample (at 10 percent significance level) when women who have no say in how to spend money are used as the reference group. The implication of this finding is that, women who either make such decisions alone or together with their partners have a higher probability (8 percent more) to make at least four ANC visits than the reference category in the rural areas. This result may not be surprising because women who are involved in such decisions are likely to be biased when it comes to issues about themselves which may include health care service utilization.

The results from the study suggest that wealth is still quite an important variable in the urban areas when the richest wealth quintile is used as the reference category. While none of the wealth categories was significant in the rural sample probably because more rural women are taking advantage of the free MHC policy, the probabilities of women within the lowest and middle wealth quintiles to make four or more ANC visits are 60 percent and 3percent less than the probabilities of their counterparts within the richest wealth quintile in the urban sample (both at 1 percent level of significance). One probable reason for this association could be that in the urban areas, some women still prefer going to some private institutions that do not operate within the fee-exemption policy due to the high opportunity costs resulting from long queues in health facilities within the free MHC policy. The result in the urban sample confirms the findings by some studies like McKeown et al. (1972), Rout (2006) and Nketiah-Amponsah and Sagoe-Moses (2009), that there is a positive association between an improvement in wealth and the use of MHC services.

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Table 4.1 continued

Variable	RURAL		URBAN	
	Coefficient	P-value	Coefficient	P-value
Partner's educational level				
No education	-0.49	0.18	-1.30**	0.03
	(0.36)		(0.60)	
Primary	-0.49*	0.09	0.03	0.97
	(0.29)		(0.82)	
Final say on own health care				
Alone/both	-0.22	0.22	0.16	0.70
	(0.18)		(0.41)	
Relationship to household head				
Head	0.50*	0.06	-0.74*	0.10
	(0.26)		(0.45)	
How to spend money				
Alone/both	0.43*	0.07	-1.14	0.21
	(0.24)		(0.92)	
Woman's age				
< 20 years	-0.24	0.64	-0.01	0.99
	(0.52)		(0.92)	
35 years and above	0.44**	0.03	0.96*	0.06
	(0.20)		(0.51)	
Employment status				
Employed	0.05	0.93	1.05	0.20
	(0.53)		(0.82)	
Number of household members	-0.01	0.83	0.01	0.91
	(0.03)		(0.11)	
Partner's age	-0.01	0.21	0.01	0.54
	(0.01)		(0.02)	
Woman's education/Partner's Education				
No education	0.14	0.74	0.89	0.39
	(0.43)		(1.05)	
Distance * transportation to health facility				
Big problem	-0.52	0.23	0.61	0.58
	(0.43)		(1.10)	
_cons	15.66***	0.00	15.01***	0.00
	(1.53)		(1.86)	

***, ** and * mean significant at 1%, 5% and 10% levels of significance respectively.
Robust standard errors are in parentheses. Number of observations: (Rural=820), (Urban=453), Pseudo R^2: (Rural=0.09), (Urban=0.19)

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The partner's educational level was included in the analysis to investigate whether or not a partner's education has an influence on the woman's use of MHC services. Although this variable was significant in both samples, the coefficient for women whose partners have only primary education was significant (at 10 percent significance level) in the rural areas but in urban sample, it was rather the coefficient for women with uneducated partners (at 5 percent significance level). Using women whose partners have at least secondary education as the reference category, the results suggest that, rural women whose partners have only primary education have a lower probability (10 percent less) in terms of making at least four ANC visits. In the urban areas, the probability of women whose partners have no education to make four or more ANC visits is 9 percent less than the probability of the reference category. The implications of the results may not be strange because highly educated men are more likely to be exposed to the importance of using health care services in general and are also expected to convince their partners to utilize such services than uneducated or less educated partners.

Using women whose ages fall within 20 and 34 years as the reference group, because their bodies are considered to be physically matured to handle stress from pregnancy and childbirth (GHS Report 2007), the probability of older women (at least 35 years) in the rural sample to make a minimum of four ANC visits is 8 percent more than that of the reference category. Similarly, the probability of older women in the urban sample to make four or more ANC visits is also 4 percent more than that of their counterparts within the reference group. This finding confirms the result in Bangladesh by Chakraborty et al. (2003), that older women are more likely to seek MHC services in general than their younger counterparts. The result is also in accordance with the proposition by Grossman (1972) that older people are more likely to demand health care services because their health stock depreciates faster than younger people, and hence need to invest more in their health.

Utilization of Delivery Care Services
The logistic regression model is again used because of the binary nature of the dependent variable. Here, the dependent variable assumes a value of one (1) if delivery took place in a health facility and zero (0) if elsewhere. The results in Table 4.2 bring out the common and different factors that determine the use of delivery care services in both localities.

With regard to the place of delivery, the woman's level of education was revealed to be significant only in the rural sample for all the education categories used in this study. Using women with at least secondary education as the reference category, the probabilities of rural women who do not have any formal education and those with only primary education to deliver in a health facility are 13 percent and 14 percent less than their counterparts with at least secondary education respectively. Again, the association between the woman's level of education and supervised delivery confirms existing findings by Elo (1992), Chakraborty et al. (2003) and Boateng and Flanagan (2008). These studies asserted that educated women have a relatively greater ability to use health care inputs and hence seek higher-quality services.

Table 4.2 Logistic Regression for the Utilization of Delivery Care Services

DC	RURAL		URBAN	
	Coefficient	P-value	Coefficient	P-value
Woman's educational level				
No education	-0.56***	0.01	0.48	0.28
	(0.22)		(0.45)	
Primary	-0.61***	0.00	0.29	0.42
	(0.19)		(0.36)	
Frequency of reading newspaper/magazine				
None	-14.39***	0.00	-13.9***	0.00
	(0.68)		(0.49)	
Less frequently	-13.70***	0.00	-13.39***	0.00
	(0.84)		(0.64)	
Frequently	-14.61***	0.00	-12.68***	0.00
	(0.82)		(0.90)	
Frequency of listening radio				
None	-0.47***	0.01	-0.49	0.23
	(0.19)		(0.41)	
Less frequently	-0.19	0.49	0.62	0.20
	(0.27)		(0.49)	
Frequently	-0.29*	0.08	0.00	1.00
	(0.17)		(0.32)	
Frequency of watching television				
None	-0.43*	0.09	-0.10	0.81
	(0.26)		(0.44)	
Less frequently	-0.33	0.31	-1.32***	0.00
	(0.32)		(0.46)	
Frequently	-0.23	0.44	0.02	0.97
	(0.30)		(0.39)	

Again, the results suggest that health information through the media is more important in the rural areas than in the urban areas with regard to institutional delivery. Frequency of reading newspapers/magazines was significant in both samples at all levels of significance. Again, while none of the coefficients for the radio listeners' categories was significant in the urban sample, rural women who do not listen to radio at all and those who listen frequently have lower probabilities (11 percent and 7 percent respectively less) to deliver in a health facility compared to their counterparts who listen to radio more frequently. As per the results, the probability of rural women who do not watch television at all to deliver in a health facility is 11 percent less than that of the reference category (those who watch television more frequently). Also, in the urban sample, the probability of women who watch television less frequently to deliver in a health facility is 15 percent less than that of women who watch television more frequently. The findings from this study confirm that of Nketiah-Amponsah and Sagoe-Moses (2009) that access to health information through television is important in explaining the demand for institutional delivery because such information is expected to improve an individual's stock of knowledge about the need for using the appropriate health services.

Table 4.2 continued

DC	RURAL		URBAN	
	Coefficient	P-value	Coefficient	P-value
Wealth				
Poorest	-2.90***	0.01	-2.92**	0.02
	(1.10)		(1.25)	
Poorer	-2.55**	0.02	-0.86	0.14
	(1.09)		(0.59)	
Middle	-2.65**	0.02	-1.54***	0.00
	(1.09)		(0.48)	
Richer	-1.79*	0.10	-0.82**	0.04
	(1.09)		(0.39)	
Partner's educational level				
No education	0.12	0.64	-0.49	0.37
	(0.26)		(0.55)	
Primary	0.22	0.31	-0.88*	0.07
	(0.22)		(0.49)	
Final say on own health care				
Alone/both	0.11	0.42	-0.15	0.61
	(0.14)		(0.30)	
Relationship to household head				
Head	-0.16	0.40	0.78**	0.02
	(0.20)		(0.34)	
How to spend money				
Alone/both	0.05	0.82	0.95	0.12
	(0.21)		(0.61)	
Woman's age				
< 20 years	-0.64	0.29	-0.17	0.84
	(0.60)		(0.84)	
35 years and above	0.34**	0.05	-1.03***	0.00
	(0.17)		(0.31)	
Employment status				
Employed	-0.67*	0.09	0.10	0.20
	(0.39)		(0.77)	
Number of household members	-0.06*	0.07	0.04	0.58
	(0.03)		(0.07)	
Birthorder1	0.28	0.16	0.73*	0.06
	(0.20)		(0.38)	
Transportation to a health facility				
No transport problem	0.30	0.33	0.77	0.16
	(0.31)		(0.55)	
Partner's age	0.01	0.16	0.07***	0.00
	(0.01)		(0.02)	
Educational levels of both parents				
No education	-1.00***	0.00	-0.78	0.32
	(0.34)		(0.79)	
Distance and transportation to a health facility				
Big problem	-0.17	0.58	0.31	0.63
	(0.32)		(0.64)	
_cons	18.06***	0.00	11.38***	0.00
	(1.35)		(1.35)	

***, ** and * mean significant at 1%, 5% and 10% levels of significance respectively.

Robust standard errors are in parentheses. Number of observations: (Rural=1208), (Urban=604). Pseudo R^2: (Rural= 0.17), (Urban = 0.19)

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Using women within the richest wealth quintile as the reference category because they can easily afford health care expenditures, wealth is revealed to influence the place of delivery. While all the categories were significant in the rural areas, one wealth category (poorer quintile) was not significant in the urban sample. The results suggest that, rural women within the poorest wealth quintile and urban women within the middle wealth quintile have lower probabilities (60 percent and 17 percent less respectively) to deliver in a health facility compared to the reference group.

Holding all other factors constant, the probabilities to deliver in a health facility by rural women within the poorer and middle wealth quintiles are 49 percent and 44 percent respectively lower than the probability of their counterparts within the richest wealth quintile. Urban women within the poorest and richer wealth quintiles also have lower probabilities (53 percent and 7 percent less) to deliver in a health facility compared to the reference category (both at 5 percent significance levels) when all other factors are held constant. Finally, the probability of women within the richer wealth quintile to deliver in a health facility is 33 percent less than the probability of the reference category.

On the whole, wealth still remains an issue regarding institutional delivery despite the free MHC policy. The effect of wealth predicted by the results from this study is not different from earlier findings by McKeown et al. (1972), Chakraborty et al. (2003) and Nketiah-Amponsah and Sagoe-Moses (2009) that an improvement in a woman's economic status increases her probability of delivering in a health facility.

Using women whose partners have at least secondary education as the reference category, the probability of urban women whose partners have only primary education to deliver in a health facility is 9 percent less than the probability of the reference category but the variable was insignificant in the rural sample. Perhaps highly educated men are more likely to be exposed to the importance of using health care facilities and are also more likely to convince the women to utilize such services than uneducated or less educated men.

While the probability of women who are 35 years and above (reference category) to deliver in a health facility is 8 percent more than that of their counterparts within 20 and 34 years in the rural areas, such women rather have a lower probability (9 percent less) compared to that of the reference group in the urban areas. The positive association between older women and institutional delivery in the rural areas confirms the proposition by Grossman (1972) that older people are more likely to demand health care services than younger people because the stock of health depreciates faster as one grows older. Although it is difficult to explain the negative relationship between the coefficient for older women and institutional delivery in the urban areas, one possible reason may be due to personal or psychological beliefs of the woman. Again, such a negative relationship may probably be as a result of attitudinal problems which were not easy to capture in the data.

While none of the variables used to measure the degree of a woman's autonomy was significant in the rural areas, the coefficient for women who are household heads was found to be positively associated with institutional delivery (at 5 percent significance level) in the urban areas. Using non female-headed households as the reference category, the results show that, the probability of women who are household heads to deliver in a health facility is 5 percent more than the probability of the reference group. This may probably be so because women who make household decisions are likely to make their own health issues priority and are expected to utilize MHC services more than their counterparts who do not make household decisions by themselves.

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Being employed had a negative relationship (at 10 percent significance level) with an institutional delivery in the rural sample but the variable was insignificant in the urban sample. The result suggests that rural women who are employed have a lower probability (16 percent less) to deliver in a health facility compared to their counterparts who are unemployed. One possible reason for this negative relationship may be that, most employment opportunities in the rural areas in Ghana are agriculture-related and usually involve time. This does not encourage women to deliver in a health facility where it might be relatively time consuming because of the processes the woman would go through especially in situations where the woman may be admitted in such health institutions for some days because either her baby or herself is not too fit to be discharged. This becomes an opportunity cost for her because it would reduce the working time and subsequently her potential income/productivity. Interestingly, Matsumura and Gubhaji, (2001) and Shakya (2006) also found a negative association with working women and the use of MHC services in Nepal. The authors believed that, the negative relationship was due to the fact that most Nepalese women live in the rural areas where agriculture is the main source of employment. The negative relationship between employment and MHC service utilization is also evident in a study in India by Kausar et al. (1999).

Birth order is included in the study to investigate whether or not being pregnant with the first child has an influence on the use of delivery care services. While the coefficient for first birth was not significant in the rural sample, the results show a positive relationship between first birth and institutional delivery in the urban sample (at 10 percent level of significance) when higher birth order is used as the reference category. The result suggests that, the probability for an urban woman experiencing her first pregnancy to deliver in a health facility is 5 percent more than that of the reference group. This may be because women experiencing their first pregnancy do not have any experience and are therefore likely to be nervous, thus inducing professional assistance in order to ensure a safe delivery. The result from the study confirms the findings by Wong et al. (1987), Elo (1992) and Mekonnen and Mekonnen (2002) that women with their first pregnancy are more likely to use MHC services than those with more than one child.

The age of the partner is also included in the estimations to investigate its effect on the woman's decisions with regard to the place of delivery. This variable is revealed to be significant only in the urban sample with a positive relationship with the dependent variable (at 1 percent significance level). The prediction from the result seems to suggest that as the partner's age increases, the woman has a higher probability (0.48 percent more) to deliver in a health facility than her counterparts with relatively younger partners. Although difficult to explain, the age of such older partners may be used as a proxy for their accumulated knowledge about the importance of modern health care services. With this, older partners are more likely to convince their women to use the appropriate health care facility, especially at this critical stage of their reproductive health.

The result shows a significantly negative relationship between household size and institutional delivery only in the rural sample. This finding suggests that, being in a large household size reduces the probability of a woman to deliver in a health facility by 1 percent compared to her counterparts within relatively smaller household sizes in the rural areas. The result may not be surprising as most rural areas in Ghana usually have large household sizes with higher number of dependents. In addition, it can be argued that the kind of living conditions in most rural areas in Ghana do not provide enough opportunities for the dwellers to get good and reliable sources of income and this is expected to cause resource constraints that probably do not encourage them to seek the appropriate health care services. The negative effect from the result

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is consistent with the findings by Wong et al. (1987), that a larger family size is likely to discourage health care utilization.

An interaction between the educational levels of both the woman and her partner are included to determine the combined effect of education of both parents on the utilization of MHC services. Hence, a dummy was created for a scenario where both parents have no formal education and where at least one of them has some level of formal education. This variable was significant only in the rural sample probably emphasizing the importance of formal education in the rural areas than in the urban areas. In the rural sample, when both parents are without any form of formal education, the probability that the woman would deliver in a health facility is 23 percent less than the probability when at least one of them is educated.

Summary and Conclusion

This paper sought to investigate the determinants of MHC services utilization in Ghana from a rural-urban perspective. The specific objectives were to make an effective rural-urban comparison in MHC service utilization and investigate the role of women autonomy and informal education on the use of MHC services. The study hypothesized that women autonomy and informal education do not have any influence on the use of MHC services in Ghana. Also, it was hypothesized that there was no rural-urban difference in MHC service utilization in both localities.

In general, the findings of the study establish that, there are some rural-urban differences in the determinants of MHC service utilization in Ghana. Also, inadequate use of MHC services is more of a rural phenomenon because in each of the MHC services analyzed in this study, the percentage of utilization was lower in the rural sample than in the urban sample. Generally, the results from the estimations suggest that the woman's education, health information via the media, women autonomy, wealth, partner's education and an interaction between the educational levels of both the woman and her partner are the major determinants of MHC service utilization in Ghana. However, the woman's level of education, media (newspaper/magazine, radio and television) and the woman's autonomy are very important in the rural areas. These findings are very important, given that more than half of the women interviewed in the survey live in the rural areas. On the other hand, wealth still seems to be an issue particularly among urban women despite the existence of the free MHC policy in the country. Interestingly, the results indicate that accessibility (distance and transportation) is not a major problem in both samples in determining MHC service utilization because both variables were insignificant.

Based on the findings from the study, targeting women for safe motherhood messages through the media is one avenue that can be exploited if improvement in the maternal health care service utilization especially in the rural areas is to be achieved. The study proposes that the government through the Ministry of Health and possibly other interested non-governmental institutions (NGOs) should take advantage of the media especially radio and television broadcast to increase the sensitization programs about modern health care practices.

Based on our findings, a policy to empower women and encourage men to involve women in decision-making in the household will ensure that their health care decisions and utilization are improved. Such policies could be in the form of the provision of formal and informal education for women and the establishment of vocation training which focuses particularly on women below the poverty line, female-headed households, etc, to help them stand on their own. Also, credits should be made available and accessible especially to women who have successfully gone through vocational training so that they can run their own businesses or

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possibly expand them. In line with providing women with skills, they should be encouraged to form cooperatives or organizations that can increase their ability to acquire credit from the financial sector to run their businesses. Such an empowerment is likely to influence their health care decisions and utilization positively.

References

Appiah-Kubi, K. 2004. Access and utilization of safe motherhood services of expecting mothers in Ghana. *Policy and Politics* 32(3):387–407.

Babalola, S., and A. Fatusi. 2009. Determinants of use of maternal health services in Nigeria: Looking beyond household and individual factors. *BMC Pregnancy Childbirth* 9-43.

Boakye-Yiadom, L. 2004. Evolution of welfare in Ghana: A rural-urban perspective. International Conference on Ghana's Economy at the Half Century. Accra, Ghana, 18–20 July, 2004.

Boateng, J., and C. Flanagan. 2008. Women's access to health care in Ghana: Effects of education, residence, lineage and self-determination. *Biodemography and Social Biology* 54(1):56–73.

Chakraborty, N., M.A. Islam, R.I. Chowdhury, W. Bari, and H.H. Akhter. 2003. Determinants of the use of maternal health services in rural Bangladesh. *Health Promotion International* 18(4):327–337.

Elo, I. T. 1992. Utilization of maternal healthcare services in Peru: The role of women's education. *Health Transition Review* 2(1):49–69.

Ghana Health Service. 2008. *GHS annual report 2007*. Ministry of Health, Accra.

Ghana Health Service 2010. *GHS annual report 2009*. Ministry of Health, Accra. Ghana Statistical Service (GSS) and Institute for Resource Development/Macro Systems Inc. (IRD). 1989. *Ghana Demographic and Health Survey 1988*. Columbia, MD.

Ghana Statistical Service and Macro International Inc. 1994. *Ghana Demographic and Health Survey 1993*. Calverton, MD: GSS and MI.

Ghana Statistical Service and Macro International Inc. 1999. *Ghana Demographic and Health Survey 1998*. Calverton, Maryland: GSS and MI.

Ghana Statistical Service, Noguchi Memorial Institute for Medical Research, and ORC Macro. 2004. *Ghana Demographic and Health Survey 2003*. Calverton, Maryland.

Ghana Statistical Service, Ghana Health Service, and ICF Macro .2000. *Ghana Demographic and Health Survey 2008*. Accra, Ghana: GSS, GHS, and ICF Macro.

Government of Ghana. 2010. *Ghana millennium development goals report, 2008*. National Development Planning Commission/Government of Ghana and the United Nations Development Program, Ghana.

Grossman, M. 1972. On the concept of health capital and the demand for health. *Journal of Political Economy* 80(2):663–671.

Gujarati, D. N. 2004. Basic econometrics, 4th ed. McGraw-Hill Education, Columbus: Ohio.

Heyen-Perschon, J. 2005. Report on current situation in the health sector of Ghana and possible roles for appropriate transport technology and transport related communication interventions. European Section of the Institute for Transportation and Development Policy.

Jones, A. M. 2005. *Applied econometrics for health economists: A practical guide*, 2nd edition. Department of Economics and Related Studies, University of York. Prepared for the

Office of Health Economics.

Kausar, F., P. Griffiths., and Z. Matthews. 1999. Poverty and maternal health care utilization in Maharashtra: Associated influences on infant mortality and morbidity. Working paper, No. 20.

Matsumura, M., and B. Gubhaju. 2001. Women's status, household structure and the utilization of maternal health services in Nepal. *Asia-Pacific Population Journal* 16(1):23–44.

McKeown, T., R.G. Brown, and R.G. Record. 1972. An interpretation of the modern rise in population in Europe. *Population Studies* 26(3):342–382.

Mekonnen, Y. and A. Mekonnen. 2002. Utilization of maternal health care services in Ethiopia. Calverton, Maryland, USA: ORC Macro.

Navaneetham, K., and A. Dharmalingam. 2000. Utilization of maternal health care services in South India. *Social Science and Medicine* 55:1849–1869.

Nketiah-Amponsah, E., and I. Sagoe-Moses. 2009. Expectant mothers and their demand for institutional delivery: Do household income and access to health information matter? Some insight from Ghana. *European Journal of Social Sciences* 8(3):469–482.

Nyarko, P., H. Birungi, M. Armar-Klemesu, D. Arhinful, S. Degansu, H. Odoi-Agyarko, and G. Brew. 2006. Acceptability and feasibility of introducing the WHO focused antenatal care package in Ghana. http://www.Popcouncil.org/pdfs/frontiers/FR_FinalReport/ ghana_who_anc.pdf (Accessed November 7, 2010).

Odoi-Agyarko, H. 2003. Profile of reproductive health situation in Ghana. http://www.who.int/countries/gha/publications/Reproducative_Health_Profile.pdf. (Accessed November 27, 2010).

Overbosch, G. B., N.N.N. Nsowah-Nuamah, G.J.M. van den Boom and L. Damnyag. 2004. Determinants of antenatal care use in Ghana. *Journal of African Economies* 13(2):277–301.

Rout, H. S. 2006. Influence of income and education on household health expenditure: The case of tribal Orissa. *The Orissa Journal of Commerce* XXVIII(1):133–144.

Shakya, S. 2006. Factors influencing utilization of maternal neonatal child health (MNCH) services among ethnic groups in Nepal. Mahidol University, MA Thesis in Population and Reproductive Health Research.

Wong, E. L., B.M. Popkin, D.K. Gullkey, and J.S. Akin. 1987. Accessibility, quality of care and prenatal care use in the Philippines. *Social Science and Medicine* 24:927–944.

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