Internal Migration and Antenatal Care Seeking Practices in Ghana

Demography and Population Studies

University of the Witwatersrand, Johannesburg South Africa

Temitope Adeyoju Latifat Ibisomi Violet Nyambo

Abstract

Despite a relatively high proportion of adequate antenatal visits (78%) among pregnant women in Ghana, many women including their infants face serious health risks with maternal mortality and infant mortality rates still high when compared to developed nations. Figures show that infant mortality is 50 per 100 000 live births and maternal mortality is 350 deaths per 100 000 live births in Ghana (GDHS 2008). One of the goals of antenatal care (ANC) is to screen and identify patients who are at high risk of having complications during child birth. Efforts to reduce maternal mortality and morbidity have resulted in studies which investigated influence of socio-economic, demographic and cultural factors such as religion, education, age, marital status, poor nutrition, wealth index, income and care costs among others as some of the factors which are associated with antenatal care in Ghana (Abor, 2011). Internal migration which is a common feature in Ghana but as a predictor of antenatal care is yet to be well documented.

Using the 2008 Ghanaian Demographic and Health Survey female data, this study investigates if and the extent to which female internal migration in Ghana influence their antenatal visit. Given that female migrants are usually a vulnerable group of people who are at heightened risks of maternal mortality and morbidity due to limited use of maternal health care services. Thus is it important to study if female migrants as a vulnerable group use antenatal care services in Ghana. The unit of analysis was females of ages 15-49 that had at least had one birth in the last five years. They must have lived in a place for 10 years or less. 1,120 fulfilled the inclusion criteria for this study.

Results show that 30% of women migrated and about 34% of the migrant women did not attend antenatal care. At bivariate level of analysis, women who migrated were less likely to attend antenatal compared to those whose women who are urban natives (women who lived in urban areas permanently) [AOR, 0.28; 95% CI, 0.34-1.28]. The adjusted odds ratio after controlling for other factors indicates that women who migrated were less likely to attend antenatal than those whose women who are urban natives [AOR, 0.67; 95% CI, 0.34-1.28]. Maternal characteristics that had a statistically significant association with antenatal visits included educational level, age, religion and wealth status. Therefore, in conclusion the study suggests that female migration may be a good predictor of lesser antenatal care uptake in Ghana.

Introduction

Insufficient antenatal care is one of the main determinants of poor maternal and child health outcomes (Shaokang 2002; Overbosch 2004). The United Nations Population Fund (UNFPA) and the World Health Organization (WHO) recommend a minimum of four antenatal care visits during pregnancy. During the antenatal visits, expectant women are given very important interventions and information that promote their health, well-being and survival and that of their infants (Overbosch 2004). Health services offered during antenatal visits include treatment of hypertension, tetanus immunization, and intermittent preventive treatment for malaria and distribution of insecticide-treated nets, prevention of mother-to-child transmission of HIV, micronutrient supplementation, and birth preparedness, including information about danger signs during pregnancy and childbirth (Overbosch 2004).

Despite a relatively high proportion of adequate antenatal visits (78%) among pregnant women in Ghana, many women including their infants face serious health risks with maternal mortality and infant mortality rates still high when compared to developed nations. Figures show that infant mortality is 50 per 100 000 live births and maternal mortality is 350 deaths per 100 000 live births in Ghana (GDHS 2008). One of the goals of antenatal care (ANC) is to screen and identify patients who are at high risk of having complications during child birth. Efforts to reduce maternal mortality and morbidity have resulted in studies which investigated influence of

socio-economic, demographic and cultural factors such as religion, education, age, marital status, poor nutrition, wealth index, income and care costs among others as some of the factors which are associated with antenatal care in Ghana (Abor, 2011). Internal migration which is a common feature in Ghana as a predictor of antenatal care is yet to be well documented.

Migration of women has been acknowledged as a demographic factor which affects the reproductive health of women (Ackah 2010). In recent times, women increasingly find themselves in situations where they need to relocate to new environment for various reasons and with increasing number of women emerging as household head are compelled to migrant for economic gains (Shaokang, 2002). In 2007, Awumbila postulated that migration can improve or worsen the status of women in their new societies. A study showed that female migrants are vulnerable to environmental, social and institutions forces that may affect their health seeking behavior (Ozidemir, 2003). Thus with an increase in women internal migration, maternal health is a pressing issue which needs to be addressed (Shaokang 2002). It is of great importance to study how internal migration influences antenatal care in Ghana.

Problem Statement

Ghana has a high maternal mortality rate of 350 deaths per 100 000 (GDHS, 2008) which is unacceptable according to the standards of developed countries. Apart from the woman who dies due to pregnancy complication, about 30% of other women will develop short- and long-term disabilities, such as obstetric fistula, a ruptured uterus, or pelvic inflammatory disease (MNPI 2002). These serious adverse events can be prevented with provision of adequate and improved services such as quality antenatal care to women in Ghana. To ensure safe motherhood, there is a need to understand factors which promote pregnant women to have control over the resources and decisions that impact their health and safety (MNPI 2002). Female migrants are usually a vulnerable group of people who are at heightened risks of maternal mortality and morbidity due to limited use of maternal health care services. Thus is it important to study if and how female migrants as a vulnerable group use antenatal care services in Ghana.

Research Question

- Is there a relationship between internal migration and antenatal care in Ghana?

General Objective

- To examine the association between antenatal care and internal migration among women who have had births in the last 5 years preceding the GDHS 2008 survey.

Specific Objectives

- To describe the migration pattern by antenatal care seeking practice
- To examine the unadjusted association between antenatal care and each selected independent variable
- To examine the adjusted association between antenatal care and internal migration having controlled for other demographic and socioeconomic factors

Justification

Literatures abound on if and how socioeconomic conditions like education, religion, wealth index, ethnicity and age influence and so on whether a pregnant women seeks antenatal care (Abor 2011, Ackah, 2010). However, literature shows that not much study has been carried out on how internal migration influences antenatal care especially in Ghana. According to Overbosch (2004), migration is a very common phenomenon in Ghana with at least one migrant in 43% of all households. However, not much information is known on female migration despite evidence in literature of a significant increment in the number of females migrating (Ackah 2010). There is need for more knowledge on migration pattern of women especially considering the fact that female migrants are vulnerable to environmental, social and institutions forces that are likely to hinder access to antenatal care. This study is justified because it focuses on a specific type of women (migrant), pregnant women, and their health seeking behavior.

Thus this study will add on to existing literature. Additionally, the fact that almost 78% of women use antenatal care in Ghana indicates that there are special minority groups of vulnerable women who have not been targeted by antenatal care in the country (GDHS 2008). The results of

the study will help inform policy related to migration and reproductive health in Ghana. Ghana has set up a number of policies and strategies meant to improve the health of pregnant women and their babies and a reduction of maternal mortality (Overbosch 2004). Most policies related to women have tended to focus more on international migration rather than internal migration (Awumbila 2007). Thus this study will help inform policies on internal migration which ensure that the rights and welfare of female internal migrants are addressed and also those at risks in respect to their reproductive and health rights are minimized.

Literature Review

Internal Migration and Antenatal Care

People migrate due to socio economic factors such as expecting better living conditions, employment opportunities (Antai 2010). Internal migration has risks and opportunities for the migrants (Antai 2010). However, in most developing countries, poor internal migrants and urban non migrants face more risks than opportunities (Amankwaa 2003). Literature indicates that the process of migration, which involves being uprooted from one environment to a new one is generally not easy (Shaokang 2002). The process is more difficult for the women. It is argued that migration is one of the behavioral processes which influences health care uptake (Antai 2010). With an increase in female migration especially of women of reproductive age, maternal and child health is one of the most critical components of the overall health care for this population, in particular because of the poor living conditions and marginalization of many migrants. This section presents a review of a number of studies which have been carried out on how internal migration influences antenatal care.

A study found that there is a significant increment in the number of female of reproductive age who are involved in internal migration. Many of these women find themselves in poor living conditions and being marginalized in their new societies. The results of the qualitative and quantitative study show that these female migrants are less likely to use antenatal services when compared to permanent residents (Shaokang, 2002). Almost half of the migrant women who delivered in major hospitals did not receive antenatal services during pregnancy and these women had poor health outcomes after delivery. The study further explain that the lower usage

of sufficient antenatal care services by migrants is due to structural (lack of funds for antenatal care), social and individual factors. The effect of education and income become more apparent in the migrants who are less educated and have less income than permanent residents, thus contributes to lowering their use of antenatal services. Discriminatory attitudes by health workers to migrants, perceiving them as being of a lower social status than permanent residents and not feeling welcome or integrated are some of the social factors which contribute to the lower use of antenatal.

Another study found that female internal migrants were less likely to go for at least four health care services during pregnancy than non migrants (Subaiya, 2007). Unlike Shaokang (2002), Subaiya (2007) used the Demographic Health Survey of Peru and distinguished the rural urban migration in internal migration. After controlling for factors such as education, age of mother, number of living children, employment status, household wealth and marital status, rural to urban migrants were found to less likely use adequate antenatal care services. The results of the study also showed that the more children a woman had, the less likely she would go for 4 or more maternal health care services during pregnancies. Interestingly, women from the rural areas were more likely to have more than children, were less educated, did not have a professional job and were least likely to stay in household of highest wealth. Thus these socioeconomic aspects explain why rural to urban migrants were less likely to attend appropriate antenatal care.

In 2009, Choi in another study argued that migration has a positive effect on health care seeking practices among pregnant women. In the study, urban residents were more likely to use appropriate antenatal care than rural-urban migrants. Rural –urban migrants were less likely to use appropriate antenatal services when compared to urban residents because health services which they found relatively high in migrant settlements and also due to a higher reliance on traditional practices. However, rural – urban migrants were more likely to use these services after the move than rural residents (Choi, 2009). Choi argues further that rural – urban migrants demonstrated better health care seeking practices compared to the rural residents because of the availability and better access to health care. In support of an argument propagated by Shaokang in 2002, Choi concluded that certain personal and household attributes established in rural areas

of origin such as level of education significantly influences how a woman use antenatal care in urban areas.

Though there is existing literature on internal migration, a deeper understanding of how internal migration influence maternal health services in Ghana is lacking. The literature review indicates that little research has been done on how internal migration influences appropriate antenatal care services in Sub Saharan Africa especially Ghana. The literature review above is from other developing countries not found in Africa. Thus there is greater need to study how an internal migrant seeks out antenatal care in Ghana. It can be appreciated that many studies have been carried out on the how internal migration influences different health outcomes in Africa (Antai 2010, Amankwaa 2003, Mberu 2010). From the literature review, it shows that migration as a process is most likely to offset the advantages that migrants may have in terms of health care in the new environment.

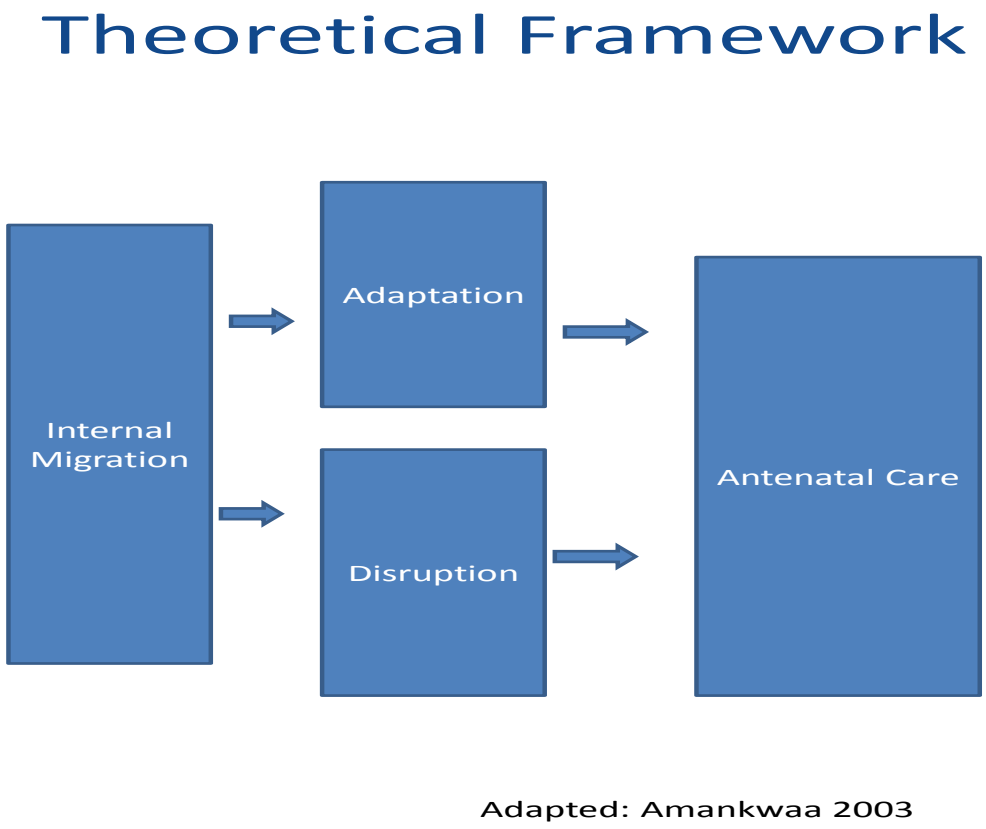
The current study examines how internal migration influence antenatal care using data from the 2008 Ghana Demographic Health Survey. Socio economic characteristics such as age, education, religion, wealth status, household living conditions, marital status and respondent's working status are used to control for the association between internal migration and antenatal care. The theoretical framework below will be used to explain the disparities or lack of such in antenatal care utilization between migrants and non migrants.

Theoretical Framework

From the literature review, three perspectives adapted from a study done by Antai (2010) can be used to explain the differences in antenatal care between internal migrants and urban or rural residents assuming there is a difference. These perspectives are of disruption, selectivity and adaptation. The disruption concept argues that migration leads to a break in the pregnant women's social network, financial support, social and cultural support which significantly influence appropriate maternal health care service utilization. The migrant adaptation perspective argues that the differences in antenatal care usage between migrants and non migrants is related to the difficulty that migrants face in adjusting to, and effectively use health care services and facilities in the new environment (Amankwaa 2003, Antai 2010). Another aspect of the adaption

perspective is that migrants are more likely to adapt innovative ideas and attitudes especially if they migrate from rural to urban areas through interaction and exposure to new ideas that promote their rights and enable them to participate more fully in society (Amankwaa 2003).

Figure 1: Perspectives explaining association between Internal Migration and Antenatal Care



Methodology

Data Source

This is a secondary data analysis using the 2008 Ghanaian Demographic and Health Survey data collected through a nationwide cross-sectional survey in which information was collected from men and women. The 2008 GDHS was carried out by the Ghana Statistical Service (GSS) and the Ghana Health Service (GHS). ICF Macro, an ICF International Company, provided technical support for the survey through the MEASURE DHS programme. The 2008 GDHS is a follow-up to the 1988, 1993, 1998, and 2003 GDHS surveys and provides updated estimates of basic demographic and health indicators covered in these earlier surveys.

Sample Design

The 2008 GDHS data was collected through a nationwide cross-sectional survey in which information was collected from men and women. The survey was conducted from 8 September to 25 November 2008 on a nationally representative sample of 12,323 households. Presently, there are 10 administrative regions, Western, Central, Greater Accra, Volta, Eastern, Ashanti, Brong Ahafo, Northern, Upper East, and Upper West. The regions are sub-divided into 170 districts to ensure equitable resource allocation and efficient and effective administration at the local levels. The distribution of Ghana's population by urban-rural residence shows that the proportion of the population living in urban areas has increased substantially since 1960. In that year, only 23 percent of the population lived in the urban areas. This proportion increased to 29 percent in 1970 and then 32 percent in 1984. In 2000, the proportion of the population living in urban areas reached 44 percent.

Sample Population

This study population is based on 4,916 females interviewed for the 2008 GDHS ages 15 to 49 years who participated in the women questionnaire module. From this women, females of ages 15-49 that has at least had one birth in the last five years. They must have lived in a place for 10 years or less. Out of the 4,916 females who participated in the women questionnaire module 1,120 fulfils the inclusion criteria was used for this study.

Data Management

The dependent variable which is number of visit to antenatal care during pregnancy has sample size of 1,120. Out of this number, 35 were sent to missing and a sample of 1085 was left. This variable is a continuous variable and it was then divided in to two categories. This variable was re coded by combining those women who had antenatal visit less than four times "Didn't go for antenatal" (0) while those who attended antenatal four times and above "Went for antenatal"(1). This categorization was justified because World Health Organization requires that only pregnant women who attended antenatal four or more times are considered to have attended antenatal.

The key independent variable which is migration was generated using place of previous residence and current place of residence. It resulted in a variable with three categories namely urban natives (those women who are permanent urban residence in the last 10 years), rural natives (those women who are permanent rural residence in the last 10 years) and internal migrant (those women who had migrated in either direction: urban to rural or rural to urban). The study was unable to establish the direction flow of the internal migration. So we assume that the internal migrants are those who moved from a rural area to urban. This assumption is formed because that is usually the common flow of migration in Ghana especially for women in their reproductive ages.

Data Analysis

1. Bivariate description analysis was done to show frequency distribution of characteristics of the study population by antenatal care visit.

2. Binary logistic analysis was done to investigate the unadjusted relationship between internal migration and each of other independent variable with the dependent variable.

3. Multivariate logistic regression was done to investigate the adjusted relationship between internal migration and Antenatal care.

Table 1: Percentage distribution of antenatal care of women by selected characteristics, Ghana 2008

	No Antenatal Care (%)	Antenatal Care (%)
Migration:		
Urban Natives	14	42.33
Internal migrants	34.50	30.09
Rural Natives	51.50	27.57
Education:		
No education	47.50	28.15
Primary education	30	21.97
Secondary/Higher education	22.50	49.89
Age:		
15-24	39.50	24.83
25-34	41.50	53.66
35-44	51.50	19.57
45+	3.50	1.95
Household living Condition:		
High	2.50	12.81
Medium	54.50	62.01
Low	43	25.18
Respondent works:		
For family member	11.30	7.92
For someone else	13.56	15.84
Self Employed	75.14	76.23
Religion:		
Christians	61	72.65
Muslim	16	21.40
Traditional	15	3.43
Other religion	8	2.52
Wealth Status:		
Poor	73	37.30
Middle	17.50	16.93
Rich	9.50	45.77
Marital Status:		
Never married	4	5.03
Currently married	92	89.59
Formerly married	4	5.38

Table 2: Bivariate and Multivariate Analysis

Dependent Variable **(Antenatal Care)**	**Unadjusted**		**Adjusted**	
	Odds Ratio (OR)	[95% CI]	Odds Ratio (OR)	[95% CI]
Migration:				
Urban Natives	RC		RC	
Internal migrants	0.2884 *	0.1809 – 0.4600	0.6699	0.3481 – 1.2892
Rural Natives	0.1771 *	0.1131 – 0.2772	0.6334	0.3109 – 1.2900
Education:				
No education	RC		RC	
Primary education	1.2358	0.8499 – 1.7967	0.9040	0.5796 – 1.4100
Secondary/higher	3.7416 *	2.5394 – 5.5130	1.9831 *	1.1879 – 3.3106
Age:				
15-24	RC		RC	
25-34	2.0571*	1.4532 – 2.9121	1.6906 *	1.1176 – 2.5574
35-44	2.0082*	1.2662 – 3.1849	1.9812 *	1.1581 – 3.3893
45+	0.8841	0.3534 – 2.2121	1.5258	0.4808 – 5.2957
Household-living Condition:				
High	RC		RC	
Medium	0.2219 *	0.0885 – 0.5566	0.9225	0.2918 – 2.9168
Low	0.1142 *	0.0451 – 0.2894	1.0588	0.3127 – 3.5852
Respondent works:				
For family member	RC		RC	
For someone else	1.6667	0.8543 – 3.2515	0.7857	0.3785 – 1.6312
Self Employed	1.4471	0.8442 – 2.4806	0.7141	0.3940 – 1.2944
Religion:				
Christians	RC		RC	
Muslim	1.1227	0.7362 – 1.7123	1.6337 **	0.9615 – 2.7758
Traditional	0.1921 *	0.1118 – 0.3303	0.4163 *	0.2225 – 0.7788
Other religion	0.2642 *	0.1348 – 0.5175	0.4685 *	0.2201 – 0.9973
Wealth Status:				
Poor	RC		RC	
Middle	1.8938 *	1.2482 – 2.8733	1.4646 **	0.8397 – 2.5545
Rich	9.4285 *	5.7194 – 15.5429	5.1960 *	2.4419 – 11.0561
Marital Status:				
Never married	RC		RC	
Currently married	0.7737	0.3582 – 1.6714	0.8532	0.3153 – 2.3088
Formerly married	1.0682	0.3691 – 3.0916	1.3266	0.3505 – 5.0206

RC= Reference Category, *p<0.05 denotes significance as the test were run using 95% significant level, **p<0.10 denotes significance at 90% significant level.

Results

Bivariate Analysis:

At bivariate, internal migrants have a lesser odds (0.2884) of attending antenatal care compared to urban natives and it is statistically significant while rural natives have a lesser odds (0.1771) of attending antenatal compared to urban natives and it is also statistically significant at 5% significant level. Women who have secondary and higher education have higher odds (3.742) and three times likely to attend antenatal compared to women who have no education. It is statistically significant. Women who have primary education have higher odds (1.2358) of attending antenatal care compared to women with no education although it is not statistically significant. Women who are of age 25-34 have higher odds (2.0571) of attending antenatal care compared to women of ages 15-24 and it is significant. Women of ages 35-44 have higher odds (2.0082) of attending antenatal care compared to women of ages 15-24 and it is significant. Women of age 45 and above have lesser odds of attending antenatal (0.8841) but it is not significant. Women who live in medium household living conditions have lesser odds (0.2219) of attending antenatal compared to women who have a high household living condition and it is significant. Women who live in low household living conditions have lesser odds (0.1142) of attending antenatal compared to women who have a high household living condition and it is significant. Women who work for someone else have higher odds (1.6667) of attending antenatal compared to women who work for family members but not significant. Women who are self employed have higher odds (1.4471) of attending antenatal compared to women who work for family members but not significant.

Women who are Muslims have higher odds (1.1227) of attending antenatal care compared to women who are Christians. It is not significant. Women whose religion is traditional have higher odds (1.1921) of attending antenatal care compared to women who are Christians and it is significant. Women who are in other religion have lesser odds (0.2642) of attending antenatal care compared to women who are Christians and it is significant. Women who are in the middle

wealth index have higher odds (1.8938) of attending antenatal care compare to women in the poor wealth index. It is significant while women who are in the rich wealth index have higher odds (9.4285) of attending antenatal care compare to women in the poor wealth index. It is also significant. Women who are currently married have lesser odds (0.7737) of attending antenatal care compared to women who are never married although it is not significant. Women who are formerly married have higher odds (1.0682) of attending antenatal compared to women are never married and it is also not significant.

Multivariate Analysis:

At multivariate, internal migrants have a lesser odd (0.6699) of attending antenatal care compared to urban natives and it is not statistically significant while rural natives have a lesser odds (0.6334) of attending antenatal compared to urban natives and it is also not statistically significant at 5% significant level. Women who have secondary and higher education have higher odds (1.9831) to attend antenatal compared to women who have no education. It is statistically significant while women who have primary education have lesser odds (0.9040) of attending antenatal care compared to women with no education and it is statistically significant. Women who are of age 25-34 have higher odds (1.6906) of attending antenatal care compared to women of ages 15-24 and it is significant. Women of ages 35-44 have higher odds (1.9812) of attending antenatal care compared to women of ages 15-24 and it is significant. Women of age 45 and above have higher odds of attending antenatal (1.5258) but it is not significant. Women who live in medium household living conditions have lesser odds (0.9225) of attending antenatal compared to women who have a high household living condition and it is not significant. Women who live in low household living conditions have higher odds (1.0588) of attending antenatal compared to women who have a household high household living condition and it is also not significant. Women who work for someone else have lesser odds (0.7857) of attending antenatal compared to women who work for family members but not significant. Women who are self employed have lesser odds (0.7141) of attending antenatal compared to women who work for family members but not significant.

Women who are Muslims have higher odds (1.6337) of attending antenatal care compared to women who are Christians. It is not significant at 5% significant levels but significant at 10%

significant level. Women whose religion is traditional have lower odds (0.4163) of attending antenatal care compared to women who are Christians and it is significant. Women who are in other religion have lesser odds (0.4685) of attending antenatal care compared to women who are Christians and it is significant. Women who are in the middle wealth index have higher odds (1.4646) of attending antenatal care compare to women in the poor wealth index. It is marginally significant at 10% significant but not significant at 5% significant level while women who are in the rich wealth index have higher odds (5.1960) of attending antenatal care compare to women in the poor wealth index. It is also significant at 5% significant level. Women who are currently married have lesser odds (0.8532) of attending antenatal care compared to women who are never married although it is not significant. Women who are formerly married have higher odds (1.3266) of attending antenatal compared to women are never married and it is also not significant.

Discussion & Conclusion

Discussion

Our findings suggest that internal migrants are less likely to attend antenatal care compared to urban natives, at both bivariate (0.2884) and multivariate (0.6699) levels of analysis. Also, rural natives are even less likely to attend antenatal care compared to urban natives at both bivariate (0.1771) and multivariate (0.6334) levels of analysis. This is consistent with the findings of a study conducted in Peru by Subaiya (2007) on access to antenatal care. This study found that women who migrated from rural areas are less likely to receive appropriate antenatal care, compared with women who have lived in urban areas all their lives. It is further confirmed by Shaokang (2002), who found similar results in China. The result of association between education and antenatal care attendance in this study is consistent with Shaokang (2002) who found that women who have secondary and higher education are three times more likely to attend antenatal compared to women who have no education. At multivariate level, women who have secondary and higher education are twice as likely to attend antenatal compared to women who have no education. This is also confirmed by Choi (2009) who conducted a study on the effect of migration on maternal and child services in Bangladesh. While women who have

primary education have lesser odds (0.9040) of attending antenatal care compared to women with no education.

Conclusion

This study addresses factors associated with antenatal care uptake amongst migrant women aged 15-49 in Ghana. The net effects individual and household socio-economic conditions have been investigated. Consistent with literature, our findings demonstrate that migrant women are less likely to attend antenatal care in comparison with urban natives. Rural natives and migrant women, who move to the urban areas, face many challenges in relation to access to health care. This is often due poor socio-economic conditions both at the individual and household level. Furthermore, challenges arise due to difficulty in adaptation and the disruption that occurs as a result of the process of migration. Integration into urban environments may be slow possibly because lack of adequate social networks and forms of social capital. It is recommended that governments ensure adequate targeted public health interventions to cater for vulnerable migrant groups.

The study was unable to establish the direction flow of the internal migration. So we assume that the internal migrants are those who moved from a rural area to urban. This assumption is formed because that is usually the common flow of migration in Ghana especially for women in their reproductive ages.

Selected References:

Ackah, C. & Medvedev, D. 2010; Internal Migration in Ghana: Determinants and Welfare Impacts. The World Bank Group,

Abor, P., Abekah-Nkrumah. G, Sakyi, K., Adjasi, J. & Abor, J. 2011: The Socio Economic Determinants of Maternal Health Care Utilization in Ghana. *International Journal of Social Economics* 38: 628-648

Amankwaa, A.; Bavon A. & Nkansah P. 2003: Rural-Urban Migration and Its Effects on Infant and Child Mortality in Ghana. *African Population Studies* 18:1-26.

Antai, D. 2010. Migration and Child Immunization in Nigeria: Individual- and Community-level Contexts. *BMC Public Health* 10: 116

Awumbila, M. 2007. Internal Migration, Vulnerability and Female Porters in Accra, Ghana

Choi, Y., & Robinson, C. 2009. Internal migration and Utilization of Maternal and Child Health Services: trends in Bangladesh.

Overbosch G., Nsowah-Nuarnah N. & Damnyag L, 2004 Determinants of Antenatal care Use in Ghana. *Journal of African Economics* 13

Ozdemir, E. 2003 The Effect of Rural-to-Urban Migration on the Status of Women in Turkey. *Turkish Journal of Population Studies* 69-96

Shaokang, Z., Zhenwel, S. & Blas, E. 2002 Economic Transition and Maternal Health Care for Internal Migrants in Shanghai, China. *Health Policy and Planning* 17: 47-55

Subaiya, L. 2007. Internal Migration and the Use of Reproductive Health Services in Peru *Demographic and Health Research*