

Determinants of Antenatal Care Utilization among Adolescent Mothers in the Yendi Municipality of Northern Region, Ghana

Shamsu-Deen Ziblim^{1*}

Adadow Yidana¹

Abdul-Rashid Mohammed²

Abstract

Adolescent pregnancy is a high-risk situation because of the mothers' physical and psychological immaturity for reproduction. In rural Ghana, especially in the northern part of the country, adolescent women are reluctant to access antenatal care. This study therefore examines the determinants of antenatal care attendance among pregnant adolescents in the Yendi Municipality. A cross sectional descriptive study design was employed with both quantitative and qualitative methods of data collection. The tools used for the data collection were questionnaires and interview guides. Data was collected from 126 adolescent mothers using the purposive sampling technique. Results indicate that distance to health facilities, mother's and partner's level of education, unfriendly attitude of health workers, cultural beliefs and income are the main determinants for the utilization of antenatal care services among pregnant adolescents. A significant association with the utilization of antenatal care services include place of residence, ethnicity, religion, marital status, partner's education level and distance to health facility. The study recommended comprehensive action-based approaches needed in rural communities, including providing public transportation and increasing availability of different types of health facilities by government. Also, there is a need for community-based interventions that can create awareness and change these social groups, cultural norms and behaviours.

Keywords: Determinants, Antenatal, Utilization, Adolescent Mothers, Yendi

¹Department of Community Health and Family Medicine, School of Medicine and Health Science, University for Development Studies, Tamale, Ghana

²Department of Community Health, School of Allied Health Sciences, University for Development Studies, Tamale, Ghana.

*Corresponding author's email address: zshamsu72@gmail.com

Introduction

In different parts of the world, adolescents have been identified as the most vulnerable group in sexual reproductive health issues. This makes adolescence, the time period between 10 and 19 years of age, the critical stage in life during which people undergo extensive biological, psychological and social changes (Dick & Ferguson 2015). According to UNICEF (2015), about 22 million girls are currently married and it is estimated that up to another 280 million are at risk of becoming brides before they turn 18. The total number of women married in childhood is 700 million and every year an additional 15 million girls under age 18 are married. According to a report by the Ghana Coalition of NGOs on Health (GCNH), an estimated number of 750,000 teenagers aged 15 to 19 years become pregnant annually. Though governments have come up with policies on adolescent health, adolescents still have limited access to information and health services that will improve their health. These concerns are particularly true for adolescents in developing countries who constitute approximately 70% of all adolescents in the world (UN, 2012). In addition to inaccessible health information, adolescents are faced with pregnancy-related complications, which research show is the second leading cause of death among girls aged 15–19 in Sub-Saharan Africa (Fatusi & Hindin, 2010).

The United Nations Millennium Development Goal (MDG) number five on maternal health aimed to reduce the number of women dying during pregnancy and childbirth by three quarters between 1990 and 2015. To achieve this goal, it was estimated that an annual decline in maternal mortality of 5.5% was needed. However, between 1990 and 2010, the annual decline was only 1.7% in the sub-Saharan Region (WHO 2012). Thus, many countries in sub-Saharan Africa were not able to achieve the goal by the year 2015. In Ghana, the situation is even worse in most deprived districts since there was an increase in maternal mortality rate from 518 in 2010 to 748 deaths per 100,000 live births in 2010 (GCNH, 2010). The Yendi municipality recorded the highest maternal mortality ratio of 344 deaths per 100,000 live births in 2016. Thus, necessitating the need for this study.

Addressing the complications related to adolescents' pregnancies and deliveries, WHO and UNFPA have developed guidelines on preventing early pregnancies and reducing poor reproductive outcomes. They recommend the need for increasing use of skilled antenatal, childbirth and postnatal care among adolescents (WHO, 2016). Furthermore, the Ghana Statistical Service (2014) has indicated that antenatal care (ANC) sought from skilled providers

is an important tool used to monitor pregnancy and reduce morbidity and mortality risks associated with pregnancy. Antenatal care provides an opportunity to empower pregnant adolescents to recognize and respond to the signs and symptoms of obstetric complications. In view of adolescent mothers' physical and psychological immaturity for reproduction, they become vulnerable. Subsequently, adolescent pregnancy is a high risk situation (Vanderpuije, 2012).

Antenatal care is more important and beneficial in the prevention of adverse outcomes when it is sought early in the pregnancy. The WHO recommends that a woman without complications should have at least four antenatal care visits; the first of which should take place during the first trimester (GSS, 2009). However, research shows that pregnant adolescents are less likely than older women to receive good ANC and skilled medical care at delivery (WHO, 2006). This disinterest has been speculated to be due to social factors such as culture, low literacy level, inadequate reproductive health knowledge and infrequent ANC attendance. These factors in one way or other affect pregnant adolescents' health-seeking behaviours, which usually increases the chances of pregnancy-related complications and poor pregnancy outcomes (Matua, 2004; Singh & Khare, 2001; Ziyani et al., 2004).

Studies have also shown that the use of antenatal care services is related to the availability, quality and cost of services, as well as to the social structure, health beliefs and personal characteristics of the users (Awusi et al., 2009). The family and community involvement is also crucial for healthy home behaviours during pregnancy and has been shown to be a major determinant of ANC services. Establishing links between the community and the facility can increase utilization of services, including ANC, and impact maternal and neonatal mortality as well as stillbirths (WHO, 2006).

One of the indicators of ANC coverage is access and utilization of care during pregnancy. It gives an indication of the number of women who attend ANC at least once during pregnancy within a given year. It is worth noting that ANC coverage in Ghana decreased from 98.2% in 2011 to 92.2% in 2012 and further decreased to 90% in 2013 (GHS, 2013). Researchers have made attempts to investigate the decreasing trend observed in antenatal coverage by assessing the factors influencing antenatal attendance (Arthur, 2012; Oppong, 2008; Donnell, 2007). These studies focused on all pregnant women, with little attention given to vulnerable pregnant adolescents. The vulnerable position in relation to utilization of ANC services put the pregnant adolescents at risk (Chaibva et al., 2009a). This study generally sought to assess the

determinants of antenatal care services utilization among adolescent mothers in the Yendi municipality.

Theoretical Consideration

To effectively address issues in this paper to its logical end, the Health Belief Model which focuses on client compliance and health care practices was used to guide the study (Polit & Beck 2008). The model integrates psychological theories of goal setting, decision making and social learning and postulates that health seeking behavior is influenced by a person's perception of a threat posed by a health problem and the value associated with actions aimed at reducing the threat (ReCAPP 2005). The model provides an explanation with respect to why some pregnant adolescents take action to attend antenatal care (ANC) early in pregnancy in order to prevent health complications while others decide to attend ANC late or not at all. Bush & Iannotti (1990) have opined that the Health Belief Model is organized into three major components; attempting to provide explanation of pregnant adolescents' behaviours towards the utilization of ANC services. The model is based on the premise that individual pregnant adolescents' health beliefs are influenced by their perceptions of the ANC services. Modifying factors such as age, gender, marital status and, educational status and parity of adolescents could influence the utilization of ANC services (Matua, 2004). It is also worth noting that socio-cultural factors could also influence the pregnant adolescents' decision as to whether or not to utilize the ANC services. The perceived benefits of ANC services might motivate the pregnant adolescents to increase utilization. In the same vein, perceived barriers such as the health workers' negative attitudes and the lack of accessibility, acceptability and availability as well as distance to service centers may influence the decision not to utilize the ANC services (Kiptanui, et al., 2015). The suitability of this model in this study was based on the fact that it attempts to explain human behaviour in seeking help. It is also useful in identifying pregnant adolescents who were susceptible to several inhibiting factors and unlikely to initiate early ANC thereby exposing themselves and their babies to health complications that could have been prevented.

Literature review

In the global discourse on maternal and child health, the focus was placed on adolescents because it is a category that falls within the broader reproductive age group (WHO, 2006). Research has also revealed that about 16 million young ladies within this age group give birth every year. Surprisingly, 95% of these births occur in less developed countries (UNFPA, 2013).

Recent estimates from research suggests that, adolescents aged 15 to 19 years are about one and a half times more likely to die during childbirth when compared with women aged between 20 to 24 years who are relatively better physiologically prepared for pregnancy and childbirth (Alves et al., 2013; Nove et al., 2014). It has also been observed that complications during pregnancy and childbirth are the second leading cause of death amongst girls aged 15–19 years old globally (Nove et al., 2014). Due to their vulnerable state and level of inexperience, an estimated three million girls within this age group practice unsafe abortions every year which further compounds the complications that contributes to adolescent maternal deaths (WHO, 2014). Evidence suggest that for those who survive, they have higher risks of postpartum bleeding (Conde-Agudelo et al., 2005), anaemia, pre-eclampsia and other problems associated with child birth (WHO, 2014). They also have a higher risk of developing obstetric fistula (UNICEF, 2016). The worst part is that, in the midst of all these challenges, some of them have to cater for their babies as single parents. Without support, they are often unable to complete their education and consequently have a limited capacity to secure a job that would sustain them (WHO, 2014).

Lack of access to, and low utilization of essential services and high-impact interventions, together with poor health services, may be partially responsible for the of progress in reducing adolescent pregnancies. In Yendi municipality, out of the 3,526 pregnant mothers who were within the catchment area in 2016, only 876 (22%) attended the recommended 4 ANC visits (DHAR, 2017). Assessing the determinants of utilization of antenatal care services in the area is therefore necessary since the findings are likely to help the District Health Management Team (DHMT) improve the quality of services and attract more pregnant teenagers.

Study Area

The study was conducted in the Yendi municipality (rural and urban communities). Yendi is located in the eastern corridor of the Northern Region of the Republic of Ghana. It is found between Latitude 9° – 35° North and 0 ° – 30 ° West and 0 ° – 15 ° East. The Greenwich Meridian thus passes through a number of settlements – Yendi, Bago, Laatam, Lumpua, Gbetobu, Gbungbaliga and Nakpachei. The Municipality shares boundaries with 8 districts: - to the East – Saboba / Chereponi and Zabzugu/Tatale, to the South – Nanumba North and East Gonja, to the West – Mion District and to the North – Gushegu and Karaga. The population of the Municipality is about 173,973 projected from 2010 Population and Housing Census and is

varied in terms of ethnicity with the Dagomba constituting the majority. The other ethnic groups include Konkomba, Akan, Ewe, Basare, Chokosi, Hausa and Moshie.

Demography and economic activities

The population of the Municipality is about 173,973 projected from 2010 Population and Housing Census. The centrality of the Municipality within the Eastern Corridor puts it in a better position to sap the energies of the remaining districts. This is manifested by the concentration of major developmental projects in the Municipality, e.g. Hospital, Telecommunication facilities, Pipe borne water and banking services. The advantages inherent in the centrality of the district notwithstanding undue pressure are often brought to bear on the facilities mentioned above due to the large catchment area of the district.

The economy of the people is largely subsistence; with agriculture being their main occupation. Over 80% of the people depend on agriculture for their livelihood. Other economic activities include weaving, agro-processing (Shea butter extraction), meat processing, fish mongering, wholesale and retail of general goods, transport and many others. These activities are on a medium and small scale. The potential of the district in agriculture is enormous. The land is suitable for the cultivation of cereals, tubers and rearing of animals. Animals reared include cattle, sheep, goats, pigs and poultry birds for domestic and commercial purposes. A good number of the populace is engaged in small scale manufacturing business. They include smock weavers, blacksmiths, bakers, mechanics, Shea butter and groundnut oil extractors.

Research design

A cross sectional, non-experimental descriptive study design was adopted thus, qualitative and quantitative data were collected. The purpose for employing this approach was to obtain data on different variables at a given point in time so that the variables will be measured, compared and eventually assist in drawing inferences on the research findings.

The main instruments used in the data collection were questionnaire and interview guide. The categorization of the questionnaire was done to ensure that the information gathered from the respondents met the research objectives. An interview guide was designed to assist the researcher to conduct an in-depth interview with six adolescent mothers drawn from the various sub municipals. This was done to obtain additional information that could not be unearthed by the questionnaire. Secondary data was collected from published journals and theses related to topic under investigation. Apart from this, other relevant documents such as Annual Health

Reports of the Yendi Municipal Health Directorate and the Ghana Statistical Service 2009 and 2015 were also relied on as secondary source of data.

The study population comprised of all adolescent women who have had the experience of childbirth in their teens (15– 19 years) during the time of the study. A purposive sampling technique was adopted to select respondents from the six (6) sub municipalities in line with the Ghana Health Service and the Yendi Municipal Assembly demarcation of the municipality (Yendi Central, Yendi East, Yendi West, Bombon, Gnani, and Adibo). The health facilities in the sub municipalities were strategically located to act as catchment areas for adolescent mothers who completed attending antenatal and postnatal health care within the Yendi municipality and its environs. The combined list of the delivery registers from the clinics was used as the sampling guide which was duly followed to identify the respondents. A sample size of 126 respondents were selected for the study. The sample size comprises 120 adolescent mothers who were interviewed through the use of questionnaires and additional 6 adolescent mothers through an in-depth interview. Data gathered through the structured interviews conducted with adolescent mothers were encoded, presented in tables, and analyzed using the SPSS version 20. The qualitative data was analyzed using content analysis technique. Access approval to conduct the study was sought and obtained from the Yendi Municipal Health Directorate. Verbal consent was also obtained from participating adolescent mothers. To maintain confidentiality for participating mothers, codes were used instead of names on the questionnaires. While that of the in-depth interviews conducted respondents were assigned with names other than their own names.

Results and Discussion

Demographic characteristics of respondents

This section looks at the demographic characteristics of the adolescent mothers by selected background variables. From the results (Table 1), the majority of adolescent mothers (72.5%) were residing in rural areas while 27.5% of them resided in the urban areas. Over one quarter of adolescent mothers (27.5%) were younger than 18 years of age while 72.5% of the adolescent mothers were above 18 years at the time of the data collection. In terms of ethnicity, more than three quarters (84.2%) of them were Dagombas with Konkombas forming 14.2% and Fulanis constituting 1.6%. With regard to religious affiliation, 79.2% of the respondents were Muslims while 20.8% belonged to Christianity, indigenous religion and other religious

denominations. The study also revealed that 50.8% were single adolescent mothers as against 49.2% married adolescent mothers.

Table 1: Socio -Demographic characteristics of respondents

Demographic characteristics	Number (n)	Percentage (%)
Community type		
Rural	87	72.5
Urban	33	27.5
Age of respondent		
<18	33	27.5
18-19	87	72.5
Ethnicity		
Dagomba	101	84.2
Konkomba	17	14.2
Fulani	2	1.6
Religion		
Muslim	95	79.2
Christian	19	15.8
Indigenous	5	4.2
None	1	0.8
Marital status		
Single	61	50.8
Married	59	49.2

Source: field survey, 2015.

Knowledge of Adolescent Mothers on ANC Services

The finding showed that 91.7% of adolescent mothers had knowledge about antenatal care while 8.3% did not (Table 2). The high percentage of adolescent mothers with knowledge of ANC corroborates a study by Banda (2013) on barriers to utilization of focused antenatal care among pregnant women in Ntchisi districts in Malawi where 96% had knowledge of ANC. This is however at variance with insights from the Nigeria Demographic and Health Survey, 2008 which revealed that among women between the age group 15-19 years who gave birth,

only 35.1% had knowledge on ANC. This may be attributed to the level of education of the adolescent mothers and their partners. With respect to their source of information, 34% heard from parents, 32.7% from health facility, 27.3% from friends, 2.7% from school while less than 1% from radio, TV and husband. On the issue of what is discussed at antenatal care (ANC), 49.1% of the respondents said nutrition education, 26.4% said the importance of ANC, 11.8% said the need for early ANC initiation, while 5.6% said management of pregnancy related complications with 3.6% mentioning services available at ANC and the importance of postnatal care.

Table 2: Knowledge of Antenatal Care (ANC) among respondents

Knowledge of antenatal care (ANC) service	Number(n)	Percentage (%)
Heard of antenatal care (ANC) before?		
Yes	110	91.7
No	10	8.3
Source of knowledge		
Friends	30	27.3
Parents	38	34.5
School	3	2.7
Health facility	36	32.7
Radio	1	0.9
TV	1	0.9
Husband	1	0.9
Issues discussed at ANC		
The importance of ANC	29	26.4
Nutrition	54	49.1
Services available at ANC	4	3.6
The need for early ANC initiation	13	11.8
Management of pregnancy related complications	6	5.5
The importance of postnatal care	4	3.6

Source: field survey, 2015

In an individual in-depth interview with one of the respondent by name Amina from Guntingli community, this was what she had to say:

I heard of ANC when I got pregnant. I was informed by my sister that pregnant women are the ones who attend ANC. She indicated that ANC services are for pregnant women, she encouraged me to attend ANC regularly. Since then I have been attending ANC at the village health post. Is good for me because they educate me on what do and what not to do. (Amina, a nursing mother at Guntingli).

Amina's testimony is an example of many ways information dissemination takes place locally. Though the informant is not a health worker, she used her experience to advice Amina to visit the health post for ANC. With the right education and experience, many people can embrace ANC services.

Initiation of ANC Attendance

With regard to utilization of maternal health care services, 98.3% of respondents had utilized the services. This corroborates GSS (2009) findings where 97.3% of mothers less than 20 years of age received antenatal care from a health professional. This however diverges from Singh et al. (2014) findings where utilization of maternal healthcare among adolescent mothers in urban India stood at only 22.9%. In addition, about 2% non-utilization of the service recorded by the study is on the low side when compared to less than 5% reported for industrialized countries and about 4.5% non-users of antenatal care services by Okutu(2006) and even much better than 43% recorded by Awusi et al. (2009). This may be attributed to differences in culture and sensitization and the likelihood of pregnant adolescents hiding their pregnancies and reporting late for antenatal care (Yeboah, 2012). In the case of Rai et al (2012) study, about 39.3% of respondents mentioned financial constraints as a reason for non-utilization of the service during delivery. There appear to be much improvement in the number of visit, with 83.9% of the respondents visiting at last four times before delivery as compared to the Ghana Statistical Service (2009) report where only 78% of pregnant women had four or more antenatal care visits. In Daniels (2013) study, 77.7% of women had at least four ANC visits during their period of pregnancy and less than half (49.9%) as reported by Okutu (2006).

Services provided at ANC

In the case of services provided, Tetanus Toxoid Injection (TTI) during pregnancy according to the study was 89.6%, service utilization out of which 56.6% received TT1 and 42.5% received TT2+. This is compared with 56.4% of mothers less than 20 years receiving two or more injections while 68.3% were protected against neonatal Tetanus1 (GSS, 2009). Utilization of Sulfadoxine-pyrimethamine (SP) tablet was 92.5%; 27.9% SP1, 18.9% SP2

while 53.2% SP3+ compared with nearly two-thirds (65%) of women between ages 15-49 who took some kind of anti-malarial medicine for prevention of malaria during the last pregnancy and over half (58%) of the women took SP/Fansidar at least once during the pregnancy while less than half (46%) of pregnant women took SP twice during the pregnancy (GSS, 2009).

A respondent by name Asana from the Balogu community in the in-depth interview had this to say:

I initiated ANC in the second three months of my pregnancy and made in all a total of two (2) visits before delivery. Hahaha! Bro on my first day, I was issued ANC card and given an injection on my upper arm. The nurse at the facility also gave me a bottle to take my urine and stool sample for analysis. I was instructed to lie on the bed and a funnel-like thing placed on my stomach from there a photograph of my stomach was taken (scanning). ANC attendance is very good for pregnant women (Asana, a nursing mother at Balogu).

This narration depicts the understanding of the woman as far as ANC is concerned. She could have attended quite a number of times. However, it could be that she did not see her condition to warrant more visits.

Determinants for the Utilization of ANC Services

The respondents were asked whether they pay money before accessing the service, 68.1% responded in the affirmative while 31.9% responded in the negative. With regards to the amount they pay, 58.5% said they paid GH¢5.00, 25.6% paid GH¢10.00 while 15.9% paid more than GH¢10.00. Of the 17.5% respondents who were engaged in income generating activities, 14.3% of them were engaged in farming activities and teaching while 71.4% were engaged in petty trading. When a question of how much the respondents earn at the end of the month from their occupations was asked, 81.0% of them said they earned less than GH¢200.00 per month while 19% earned between GH¢200.00 to GH¢400.00 per month. On the issue of support, 77.5% of them responded they had support. Of this figure, 96.8% from family while the rest from friends and NGOs. More than half of the respondents travel more than a kilometer to the nearest health facility to utilize antenatal care services and majority (71.2%) of them travel to the facility by walking. In addition, 92.4% of the respondents said the health workers were friendly to them at service delivery point while 7.6% of them responded in the negative. The study also revealed that majority (92.4%) of the respondents were receiving ANC for the first time.

Distance to health facility was also noted in this study to be one of the most important determinants in the utilization of ANC. As was reported by a respondent during an interview in one of the study communities:

You know when you attend ANC regular it makes you deliver your baby with ease. There was a day I planned going for ANC but that very morning, my brother passed away. I used to walk to the hospital for ANC and always find it difficult when my appointment is due. For me I believe that if the distance to the health facility is far it discourages others to utilize ANC services.

The narration above is an indication that the respondent understands the importance of ANC. But issues relating to distance easily discourages them from attending ANC services. The narration of Samata below supports the work of Hatcher (2008) that distance to health facility is a major hindrance to health care utilization in the developing world.

.....I also believe that the cultural practice performed to outdoor the pregnancy of first time mothers to the family could be a barrier to utilizing ANC services because the process takes time. You may have appointment for ANC but due to the practice you may fail to honour it. You know you are only pronounce pregnant if and only if the cultural practice is performed or else no member of the family can do so not to even taugth of initiating ANC. The TBAs sometimes help us by advising us to always stick to our ANC appointments given by the nurses and assist in the delivery of babies. (Samata, 19-year old nursing mother at Sunsongin)

Thus, cultural practice associated with pregnancy makes it difficult for first timers to visit ANC in the first trimester. The narration above is a clear indication of how these practices work.

Another respondent, Comfort, a 19-year old Konkomba nursing mother at Gnaniduring in an interview narrated how culture could be a determinant of ANC utilization:

Hmmm! On the issue of cultural rituals, to the best of my knowledge it's only Dagombas who perform some rituals on their pregnant young women to outdoor their pregnancy. I learnt that it is even a taboo to reveal to public, the pregnancy of a young lady unless the ritual is performed. But for us Konkombas there is nothing of that sort.

This explanation gives an indication of cultural variations. If it is established that the ritual associated with first time pregnant women is unique to a particular ethnic group, it can easily

be targeted for modification. This finding is in support to the WHO (2006) where some cultural beliefs were found to influence the utilization of ANC services.

Determinants Associated with Antenatal Care Utilization

A number of factors were found to be significantly associated with the utilization of antenatal care services. These include place of residence, age of the pregnant adolescent, partner's level of education, religion, social support, distance and marital status. This supports Yeboah (2012) study in which maternal age, marital status and educational level are all significantly associated with the likelihood of initiating an early prenatal visit. The study established the fact that utilization of recommended ANC services and safe delivery by adolescent mothers was higher in rural than in urban areas (Table 3). This disagrees with the findings of a study conducted in eight other West African countries, where rural women gave birth at home in the absence of skilled care providers (Ronsmans et al., 2003) and that of Okutu (2006) that showed rural-urban disparity in access to antenatal care in Uganda, sixty two percent (62%) of urban women compared to 46.1% for their rural counterparts. Husbands support was found to have a significant effect on antenatal care service utilization among adolescent mothers. This corroborates studies by (Ogunlesi, 2010; Ogunlesi & Ogunlesi, 2012) and that of (Amin et al., 2010; Singh et al., 2012). It was supported that the educational level and occupation of partner had a significant association between delivery in a health facility and assistance at delivery by trained medical personnel ($p < 0.05$) (Anita, 2013). To illustrate, studies have shown that male engagement in women's health needs enhances women's maternal and reproductive healthcare choices and their utilization (Mufune, 2009; Odimegwu et al., 2005; Prakash, et al., 1994).

Table 3: Association between socio-demographic characteristics and ANC attendance

Determinants of ANC utilization	At least 4 ANC visits	p-value	Safe Delivery	p-value
Community type		0.064		0.000*
Rural	57.6		54.2	
Urban	26.3		25.8	
Age of respondent		0.134		0.259
<18	21.2		20.8	
18-19	62.7		59.1	
Ethnicity		0.001*		0.000*
Dagomba	74.6		69.2	
Konkomba	9.3		10	
Fulani	0.8		0.8	
Religion		0.012*		0.000*
Muslim	67.8		66.7	
Christian	14.4		10.9	
Indigenous	0.8		1.7	
None	0.8		0.8	
Marital status		0.741		0.018*
Single	43.2		44.2	
Married	40.7		35.8	
Knowledge of antenatal care		0.603		0.762
Yes	78		73.4	
No	5.8		6.6	
Occupation		0.497		0.811
Farming	9.5		14.3	
Petty Trading	61.9		66.7	
Teaching	14.3		14.3	
Support		0.836		0.183
Yes	64.4		60	
No	19.5		20	
Mother's level of education		0.907		0.695
Basic	67		58.7	
Secondary	20.9		19.6	
Tertiary	1.1		1.1	
Partner's level of education		0.211		0.026*
Basic	30		25.9	
Secondary	46.2		45.6	
Tertiary	11.2		8.6	

Source: (field survey 2015) Note: *statistically significant for χ^2 test at $p \leq 0.05$

The religious affiliation of respondents was found to have a significant association with at least four visits and safe delivery with p-values of $p = 0.012$ and $p = 0.000$ respectively. This is contrary to Yeboah (2012) study in which religious affiliation did not have a significant association with timing of first prenatal visit. In addition, the difference in healthcare service utilization by social groups could be linked with the strong influence of cultural beliefs and practices (Babalola & Fatusi, 2009). Also, a study by Wall (1998) highlighted a series of adverse health consequences of such cultures.

On the level of income and type of occupation, there was a significant association with utilization of antenatal care services and safe delivery care. These tie in well with previous evidence from African countries that highlight significant economic inequality in healthcare service utilization (Ochako, Fotso, Ikamari, and Khasakhala, 2011). One can speculate that poor households do not often have the resources for healthcare expenses, because their priority is to meet their basic daily needs, whereas wealthier households can spend a higher proportion of their earnings on healthcare (Singh et al., 2011).

Distance Travelled and Care Givers Characteristics

This study shows a significant association between ANC service utilization and knowledge of the availability of the service. It confirms one of the studies that brought the facts to bear that the effect of mass media exposure on recommended antenatal care services and safe delivery care utilization is significant and consistent with previous studies (Bankole & Westoff, 1996; Retherford & Mishra, 1997). Knowledge on ANC is critical in determining pregnant women's use of antenatal services (Simkhada et al., 2008). Studies have shown that exposure to mass media particularly television and radio significantly predicts utilization of ANC. Pallikadavath et al. (2004). In the study conducted by Ndyomugenyi et al. (1998) in a rural area of Uganda, the findings indicated that pregnant women with inadequate knowledge of maternal and child health were likely not to utilize ANC.

Table 4: Facility and care givers characteristics and antenatal attendance

Determinants of ANC utilization	At least 4 ANC visits	p-value	Safe Delivery	p-value
Distance to health facility		0.008*		0.001*
Less than 1 km	43.2		37.3	
Between 1 to 2 km	18.6		21.2	
More than 2 km	22		22.9	
Time of ANC initiation		0.946		0.095
First trimester	42.4		41.6	
Second trimester	38.1		37.3	
Third trimester	3.4		2.5	
Attitude of health workers		0.603		0.591
Friendly	78		76.4	
Unfriendly	5.9		12.7	
First time experience		0.143		0.455
Yes	78.8		74.6	
No	5.1		6.7	

Source: field survey, 2015

Note: *statistically significant for χ^2 test at $p \leq 0.05$

There is also a significant influence of distance travelled to the health facility on at least four ANC visits and safe delivery utilization among adolescent women (Table 4). This finding is supported by Daniels et al. (2013) which reported that comparatively many women who did not go for antenatal during their first trimester considered the time spent on the journey to the health facility as being too long ($p=0.000$). They also thought the cost of transportation was too high ($p<0.05$) and general access to health facility was difficult ($p<0.05$). Similarly, more women who could not visit the health facility four times thought the nature of the roads were poor ($p<0.05$) and that it took longer time to get to the hospital ($p<0.05$). Although circumstances may seem challenging in terms of difficulties in getting permission to go for treatment, getting money for treatment, distance to health facility and having to take transport as factors that prevent women from accessing health care services (Okutu, 2006).

Conclusion

Age, marital status, parity, educational level and knowledge about ANC and its benefits strongly influence the adolescent mother's decisions to either utilize or not utilize ANC services. Socio-cultural and economic factors such as ethnicity and cultural practices also played a pivotal role in influencing pregnant adolescents' decisions on whether to utilize ANC services. Although the adolescent mothers demonstrated some appreciation of ANC and its benefits when tested, they indicated that adequate knowledge about ANC might motivate them to utilize ANC services. Perceived barriers likely to prevent adolescent mothers from utilizing ANC services in terms of accessibility, affordability and acceptability including issues of confidentiality. To improve adherence to ANC, adolescents place of residence, maternal age and partner's educational level, knowledge, religion, culture, support, distance and marital status must be looked into. This was supported by Yeboah (2012), which indicates that maternal age, marital status and education are all significantly associated with the likelihood of initiating an early prenatal visit.

References

- Alves JG, Siqueira LC, Melo LM, Figueiroa JN. (2013). Smaller pelvic size in pregnant adolescents contributes to lower birth weight. *Int J Adolesc Med Health*;25:139–42.
- Arthur, E. (2012). Wealth and antenatal care use: Implications for maternal health care utilisation in Ghana. *Health Economics Review*, 2(1), 1–8. <http://doi.org/10.1186/2191-1991-2-14>
- Awusi, V.O., Anyanwu, E.B., Okeleke, V. (2009). *Determinants of antenatal care services utilization in Emevor village, Nigeria*. Benin Journal of Postgraduate Medicine Department of Family Medicine, College of Medical Sciences, Delta State University, Abraka, Delta State, Nigeria
- Babalola, S. & Fatusi A. (2009). *Determinants of use of maternal health services in Nigeria- looking beyond individual and household factors*. *Bio-Med Central Pregnancy and Childbirth*. 9(43).
- Banda, C. L. (2013) Barriers to Utilization of Focused Antenatal Care Among Pregnant Women in Ntchisi District in Malawi, Master's in Public Health, Tampere School of Health Sciences, University of Tampere
- Bankole, A., & Wesstoff, C. F. (1996) *Mass media influences on contraceptive behavior and reproductive preferences*. Paper presented at the Annual Meeting of the Population Association of America, New Orleans, LA.
- Bush, P. J., & Iannotti, R. J. (1990). A children's health belief model. *Medical Care*, 28, 69–86. doi:10.1097/00005650-199001000-00008

- Chaibva, C. N., Roos, J. H., & Ehlers, V. J. (2009a). Adolescent mothers' non-utilisation of antenatal care services in Bulawayo, Zimbabwe. *Curationis*. <http://doi.org/10.4102/curationis.v32i3.1219>
- Conde-Agudelo A, Belizán JM, Lammers C. (2005) Maternal-perinatal morbidity and mortality associated with adolescent pregnancy in Latin America: cross-sectional study. *Am J Obstet Gynecol.*;192:342–9.
- Daniels, A.A., Ahenkan, A., & Poku, K. A. (2013) Factors Influencing the Utilization of Maternal Health Services: The Perspective of Rural Women in Ghana, *Journal of Public Administration and Governance*, Vol. 3 (2): 121-141 ISSN 2161-7104
- Donnell, O. O. (2007). Access to health care in developing countries: breaking down demand side barriers. *Cad Saude Publica.*, 23(12), 2820–2834. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/18157324> University of Ghana <http://ugspace.ug.edu.gh>
- Dick, B. & Ferguson, B. J. (2015) Health for the World's Adolescents: A Second Chance in the Second Decade, *Journal of Adolescent Health*, Vol. 56(1): 3-6, DOI: <http://dx.doi.org/10.1016/j.jadohealth.2014.10.260>
- Fatusi, A.O. & Hindin, M.J. (2010) Adolescents and youth in developing countries: Health and development issues in context. *Journal of Adolescence*, 33, 499-508. doi:10.1016/j.adolescence.2010.05.019
- Ghana Statistical Service (GSS), Ghana Health Service and ICF Macro, (2014). *Ghana Demographic and Health Survey: Key indicators*. International Rockville, DHS Program, Maryland, USA and Accra, Ghana
- GHS. (2013). Annual reproductive and child health report annual report.
- Ghana Statistical Service and ICF Macro (2009). *Demographic and Health Survey*, Accra and Calverton, Maryland.
- Kiptanui, C., Kindiki, J & Lelan, J. (2015). Impact of teenage motherhood on the academic performance in public primary schools in Bungoma County, Kenya. *International Journal of Educational Administration and Policy*, 7 (2), 61-71.
- Matua, A. G. (2004). *Determinants of maternal choices for place of delivery in Ayivu County, Uganda*. *Africa Journal of Nursing and Midwifery*6(1):33-38.
- Mufune, P. (2009). The male involvement programme and men's sexual and reproductive health in Northern Namibia. *Current Sociology*, 57, 231–248.
- Ndyomugenyi, R., Neema, S., & Magnussen, P. (1998). The use of formal and informal Services for antenatal care and malaria treatment in rural Uganda. *Health Policy and Planning*, 13:94–102.
- Nove A, Matthews Z, Neal S, Camacho AV. (2014). Maternal mortality in adolescents compared with women of other ages: evidence from 144 countries. *Lancet Glob Heal*. 2014;2:e155–64.
- Ochako, R., Fotso, J, C., Ikamari, L., Khasakhala, A. (2011). Utilization of maternal health services among young women in Kenya: insights from the Kenya Demographic and Health Survey, 2003. *BMC pregnancy and childbirth*, Vol 11:1. doi: 10.1186/1471-2393-11-1.

- Odimegwu, C. O., Adewuyi, A. A., Odebiyi, T., Aina, B., Adesina, Y., & Olatubara, O. (2005). Men's role in emergency obstetric care in Osun State of Nigeria. *African Journal of Reproductive Health*, 9, 59–71.
- Ogunlesi, T. A. (2010). Maternal socio-demographic factors and the initiation and exclusivity of breastfeeding in a Nigerian semi urban setting. *Maternal and Child Health Journal*, 14, 459–465.
- Ogunlesi, T. A., & Ogunlesi, F. B. (2012). *Family socio-demographic factors and maternal obstetric factors influencing appropriate health-care seeking behaviours for newborn Jaundice in Sagamu, Nigeria*. *Maternal and Child Health Journal*, 16, 677–684.
- Okutu, D. (2006) Access to and utilization of antenatal care services in Uganda, Regional Institute for population Studies, University of Ghana
uaps2011.princeton.edu/papers/110707
- Opong Gyamfi Kwaku. (2008). Factors affecting utilization of antenatal care services in the Bosomtwe district of the Ashanti region Ghana.
- Pallikadavath S. Foss M, Stones RW. Antenatal care: provision and inequality in rural North India. *Social Science and Medicine*, 2004; 59(6), 1147–1158.
- Polit, DF. & Beck, C.T. (2008). *Nursing research: Generating and assessing evidence for nursing practice*. 8th edition. Philadelphia: Lippincott Williams & Wilkins.
- Prakash, A., Swain, S., & Negi, K. S. (1994). *Who decides?* *Indian Pediatrics*, 31, 978–980.
- ReCAPP. (2005). Theories and approaches. Health Belief Model. From: <http://www.etr.org/recapp/theories/hbm> (accessed March 2017)
- Retherford, R. D., & Mishra, V. K. (1997). *Media exposure increases contraceptive use*. National Family Health Survey Bulletin, Mumbai, India: International Institute for Population Sciences; and Honolulu: East-West Center Program on Population.
- Santhya, K. G., Jejeebhoy, S. J., & Ghosh, S. (2008). *Early marriage and sexual and reproductive health risks: Experiences of young women and men in Andhra Pradesh and Madhya Pradesh, India*. New Delhi, India: Population Council. Scholarship, 2003; 35(3), 269–273.
- Simkhada, B. D., Van Teijlingen E. R., Porter M., & Simkhada, P. (2008). *Factors affecting the utilization of antenatal care in developing countries: systematic review of the literature*, *Journal of Advanced Nursing*, 61(3):244-60.
- Singh et al. (2014). *Utilization of maternal healthcare among adolescent mothers in urban India: Evidence from DLHS-3*. *Peer J*, pp. 592. <http://dx.doi.org/10.7717>
- Singh, L., Rai, R. K., & Singh, P. K. (2011). Assessing the utilization of maternal and child health care among married adolescent women: Evidence from India. *Journal of Biosocial Sciences*. <http://dx.doi.org/10.1017/S0021932011000472>.
- Singh, N. K. & Khare, S. (2001). Outcome in adolescent pregnancy. *The Journal of Obstetrics and Gynaecology of India* 51(6):34-36.
- UN (2012). World Population Monitoring; Adolescent and Youth, Concise report
- UNICEF (2015). Child Marriage: The UNICEF GHANA internal STATISTICAL bulletin, Issue 4.

- UNICEF (2008). Fact Sheet Young People and Family Planning. United Nations Children's Fund. http://www.unicef.org/malaysia/Teenage_Pregnancies_-_Overview.pdf. Accessed 22 June 2017.
- UNFPA (2013). *Motherhood in childhood: facing the challenge of adolescent pregnancy*. New York: United Nations Population Fund
- Vanderpuije, M. A. A. (2012). *Social Support in Pregnant Teens: A Systematic Review of Social Support Interventions*, Masters in Public Health, University Of Pittsburgh
- Wall, L. L. (1998). Dead Mothers and Injured Wives: The Social Context of Maternal Morbidity and Mortality among the Hausa of Northern Nigeria. *Studies in Family Planning*, 29 (4): 341-359.
- WHO (2014). Adolescent pregnancy. <http://www.who.int/mediacentre/factsheets/fs364/en/>. Accessed 13 May 2017.
- WHO (2006). *Opportunities of Africa's new borns, Practical data, policy and programmatic support for new born care in Africa*. Retrieved from <http://www.who.int/pmnch/media/publications/oanfullreport.pdf>
- WHO (2016). *Recommendations on antenatal care for a positive pregnancy experience*, ISBN 978 92 4 154991 2, www.who.int/reproductivehealth/publications
- WHO (2008). MPS Notes: Adolescent pregnancy. World Health Organization. http://www.who.int/maternal_child_adolescent/documents/mpsnnotes_2_lr.pdf?ua=1. Accessed 22 May 2017.
- WHO (2006). *Reproductive health indicators: guidelines for their generation, interpretation and analysis for global monitoring*. Geneva: World Health Organization.
- Yeboah, M. K. (2012). Social Support and Access to Prenatal Health Services: A Study of Pregnant Teenagers in Cape Coast, Ghana, *Journal of Science and Technology*, Vol. 32(1): 68-78, <http://dx.doi.org/10.4314/just.v32i1.8>
- Ziyani, I. S., King, L. & Ehlers, V. J. (2004). Using triangulation of research methods to Investigate family planning practices in Swaziland. *Africa Journal of Nursing and Midwifery* 6(1):12- 17.