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SOCIO-ECONOMIC DETERMINANTS OF BIRTH AND EMERGENCY PREPAREDNESS IN ANTENATAL CARE: A STUDY AMONG MOTHERS IN THE WA MUNICIPALITY

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Abstract
Inadequate birth and emergency preparedness are a recipe for the development of complications that often lead to morbidities and mortalities during pregnancy and child birth. Yet, little is known of the socio-economic factors that affect birth and emergency preparedness in the Wa Municipality. Therefore, the objective of the study was to assess the socio-economic determinants of birth and emergency preparedness among mothers with children up to one year of age. A facility based cross sectional study was employed to get information from respondents. The sampling technique used was multistage sampling and a structured questionnaire was used as the data collection instrument. Logistic regression was used to identify the determinants of birth and emergency preparedness. A total of 401 mothers participated in the study. It was revealed that 43.4% of respondents were knowledgeable in pregnancy danger signs. About 62% were adequately prepared for birth. In multivariate analysis, mothers who: had attained at least secondary education ($P< 0.001$), had high wealth index ($P< 0.001$), had at most 2 children ($P=0.035$), had four or more ANC visits ($P=0.003$) were significantly more likely to prepare adequately for birth. The above variables stood out as the major socio-economic determinants of birth and emergency preparedness. The study showed that birth and emergency preparedness among mothers in the study setting occurs in the context of specific socio-economic factors that are likely to mould the behaviours of women towards preparing adequately for birth preparedness and emergency services uptake. There is therefore the need for all stakeholders in the area of health to work towards reinforcing these variables or determinants to ensure women are adequately prepared for birth and emergencies.

Keywords: Birth Preparedness, Socio-Economic Determinants, Ante-Natal Care, Pregnancy Complications, Maternal Mortality Rate

Introduction

Pregnancy is not a disease and pregnancy related mortality can be almost always averted yet this often is not the case. In 2013, the World Health Organisation (WHO) (2014) estimated the global number of maternal deaths to be 289, 000. The arrival of a newly born baby is a major reason for merriment around the world, yet in most Low-Income Countries, pregnancy and childbirth is a journey of no return (Ransom &Yinger, 2002). Globally, the numbers remain staggering where Sub-Saharan Africa alone accounts for 62% of global maternal deaths (WHO, 2014). The Maternal Mortality Ratio (MMR) in developing regions (230/100, 000) was also 14 times higher than that in developed regions (16/100,000) in 2013. Sub-Saharan Africa has the highest regional MMR (510/100,000), while the estimated lifetime risk for maternal mortality in low income countries is 1 in 52 as compared to high-income countries which have a lifetime risk of 1 in 3400 (WHO, 2014). The fact that many women die each year during pregnancy, delivery and the postpartum period suggests inadequate overall progress towards reproductive health, including maternal health or SDG 3 (WHO, 2010; Bryce et al., 2008; Ronsmans & Graham, 2006). Pregnancy related complications cannot be reliably predicted and it is necessary to design strategies to overcome these problems when they

arise (Othman, Dan, Michael, 2011). Delay in responding to the onset of labour and complications has been shown to be one of the major barriers to reducing mortality and morbidity surrounding childbirth (Thaddeus & Maine, 1994). Previously, the global public health community viewed the trend of poor maternal health statistics with trepidation, and in 1987, the global Safe Motherhood Initiative (SMI) was launched to raise awareness about the scope and consequences of poor maternal health, and to mobilize action to address high rates of death and disability arising from the complications of pregnancy and childbirth (Starrs, 1987). It is in the quest of making motherhood safer and joyous that Birth and Emergency Preparedness (BEP) or Birth Preparedness and Complication Readiness is considered by the WHO and its partners to be a useful and practical intervention for improving maternal health (WHO, 2001).

BEP is a strategy to promote utilization of skilled maternal and neonatal care, based on the theory that preparing for childbirth and being ready for complications reduces delays in obtaining this care (JHPIEGO, 2004). Adequate preparation for skilled delivery and the unpredictable complications that come with pregnancy and child birth are among the most important interventions to prevent maternal deaths (Campbell & Graham, 2006), but rely on numerous complex interactions influencing a woman's ability to properly seek skilled delivery and adequately prepare for any emergency that may come as a result of child birth. It is opined that the use of maternal health services is a function of demographic, cultural and socio-economic factors, such as age of women, size of household, education, place of residence, religious background, marital status, access to information/mass media, employment, wealth status of household and the social support that women get from their husbands/partners (Addai, 2000; Mekonnen & Mekonnen, 2003; Gage, 2007). For example, a woman's level of education, and her specific knowledge about the importance of pregnancy and delivery care and awareness of where to receive them, also play a role in uptake of services (Simkhada, Vanteijlingen, Porter, & Simkhada, 2008). Also, a study conducted by Rani, Bonu, & Harvey (2008) found out that caste, wealth quintile, and urban or rural residence were all found to be associated with quality of birth preparedness and antenatal services received by different groups in India. Say & Raine (2007) also posited in a study that a woman's age, the number of children she has already had, her knowledge of services, and previous birthing experience can all influence pregnancy and delivery care. The vast disparities between regions and countries in maternal health have long been known. There is a growing body of evidence showing how within countries, maternal health outcomes are inequitably distributed, with the poorest likely to be most disadvantaged. In some settings, improvement in the national maternal mortality ratio (MMR) hides the existence of persistent internal inequities, some of which continue to increase even when aggregate trends improve (Houweling, Ronsmans, Campbell, & Kunst, 2007). There is growing interest, therefore, in comparing maternal health outcomes between communities with different social and economic development contexts. There is ample evidence to show that mothers who are ill prepared for birth and emergencies that may come with pregnancy and delivery are more likely to suffer from maternal morbidity and mortality (JHPIEGO, 2004). Though some studies have been carried out in Ghana on the status of birth preparedness and socio-economic determinants of maternal health service utilisation in general (Kuganab-Lem, Dogudugu, Kanton, 2014; Udofia, et al., 2013; Moyer, 2012), there is still a gap in this line of study especially in the Wa Municipality. Therefore, the impetus for this study was to assess the socio-economic determinants of birth and emergency preparedness among mothers in the municipality. Empirical evidence further suggests that adequate preparation for birth and the unpredictable adverse events that come with pregnancy and child birth by women and their families is critical in reducing the delays that often culminate in maternal deaths (Thaddeus and Maine, 1994). The public health, economic and social burdens of maternal morbidity and mortality are huge. Hence, improving maternal health needs evidence-based interventions that are borne from research. An awareness of the socio-economic determinants of BEP will also pave the way for the development of evidence-based interventions to improve maternal and neonatal health. With the growing demand for evidence-based interventions of Safe Motherhood programs, this study will add to the evidence base of effective promotion and

implementation of BEP programs and also give an overview of existing knowledge gaps that require further research.

Methods

Study Design

The study employed a facility-based descriptive cross-sectional survey design.

Study Area

The study area was the Wa Municipality in the Upper West Region of Ghana. The Municipality has a population of about 127,287 (GSS, 2012), representing 17.3% of the regional population.

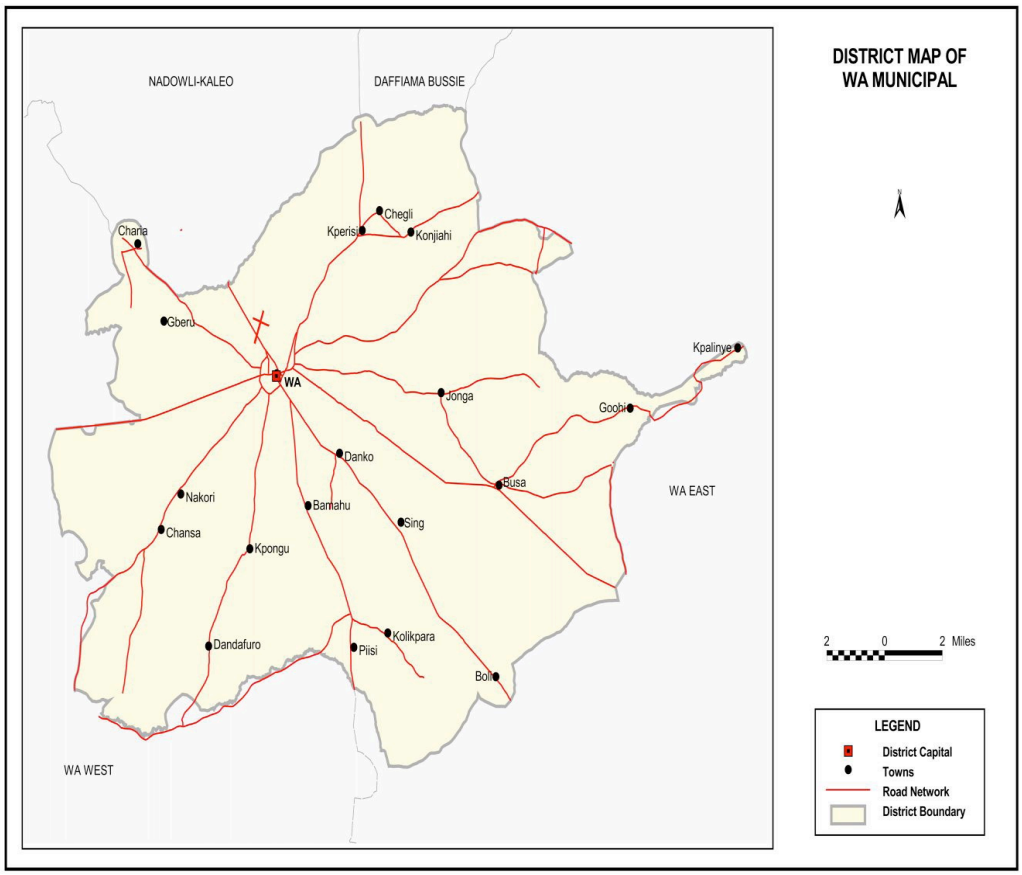

Figure 1. Map of Wa Municipality;
Source: Ghana Statistical Service, 2014

Study Population

The study targeted women with children up to one year of age who attended child welfare clinic - regardless of age, religion, educational status, economic status, area of residence, and parity.

Sampling Technique

A multistage sampling technique involving an initial simple random sampling was used to select four out of five health centres in the municipality. The Wa sub, Kambali, Charia, and Busa health centres were chosen for the study. Participants were also randomly selected at facility level to take part in the study.

Sample Size Determination

The final sample size used for data collection was 401. Initially, a sample size of 385 was calculated using a formula by Fishers $n=Z^2*P\ (q/d^2)$, (Mugenda & Mugenda, 2003), where **n** was the desired sample size of the study population, **Z** was the standard normal deviate, set at (1.96) which corresponds to the

95% confidence level, **P** was the proportion of women in the target population estimated to be unknowledgeable in birth and emergency preparedness, which was unknown and hence set at 50% (0.5), and **d** was the degree of accuracy set at 0.05 while **q** was set at 0.5, 1-p (1-0.5). However, a non-response rate of 5% of the calculated sample size (n=385) was envisaged resulting in a final sample size of 404.

Research Instrument

The research instrument was a structured questionnaire which sought to elicit socio-economic data, obstetric history, BEP practices, and knowledge level on BEP of respondents. Five percent (n=20) of the questionnaire (n=401) was pre-tested in the Nadowli district where the respondents had similar characteristics to the study population.

Data Analysis and Presentation

The data collected were analyzed using Statistical Package for the Social Sciences (SPSS) version 20 and findings presented in tables. Quantitative variables were presented as range, mean and standard deviation. Quantitative variables, which were collected as continuous variables were categorized (age, parity, and number of ANC visits) and further analyzed using logistic regression analysis. Categorical variables were tabulated using frequencies and percentages. Unadjusted and adjusted odds ratios were derived for significant bivariate associations. A probability value of less than 0.05 was considered statistically significant at 95% confidence interval.

Ethical Consideration

An introductory letter was obtained from the Head of Department of the Department of Community Health, University for Development Studies. Permission was also sought from the Wa Municipal Health Directorate and heads of the four health centres that were selected for the study. Informed verbal consent was obtained from the respondents before interviewing them. Respondents were informed of the objectives and importance of the study and were assured of anonymity and confidentiality.

Determination of Level of Birth Preparedness

A woman's level of preparedness for birth and its complications was measured if she reported that she: had at least four ANC attendances, identified skilled provider, saved money, arranged for transportation and identified a potential blood donor. A woman was considered well prepared for birth and its complications if she mentioned at least three of the five variables, less than three variables was considered as less prepared. This method of classifying well-prepared and less-prepared mothers was used earlier in studies on birth preparedness by Kumar et al. (2008), Udofia et al. (2013), and Kaso & Addisse (2014).

Results

Table 1 below gives a detailed description of the socio-demographic characteristics of respondents. Four hundred and one (401) questionnaires were returned from the field yielding a response rate of 99.23%. The mean age and standard deviation of the respondents was 29.15 ± 6.19. The minimum age of the respondents was eighteen years (18) whilst their maximum age was fifty three (53). About 22.4% of the respondents were within the age group of 18 – 24 and majority (58.1%) were from an urban area. Amongst the respondents, 94.8% were married. With regards to occupation, only 12.4% were in the formal sector. The study also showed that 29.9% of the respondents had a low wealth index. Out of the 401 respondents, 39.9% had no formal education and majority (62%) were Muslims.

Table 1 Socio-demographic Data of Respondents

Variable	Frequency (n)	Percentage (%)
Age groups of mothers		
18-24	*90*	22.4
25-31	*187*	46.7
32-38	*91*	22.7
39-53	*33*	8.2
Residence		
Rural	*168*	41.9
urban	*233*	58.1
Marital status		
married	*379*	94.8
not married	*21*	5.3
Occupation of mother		
formal sector worker	*49*	12.4
informal sector worker	155	39.2
housewife/unemployed	*191*	48.4
Wealth index of households		
low wealth index	*120*	29.9
medium wealth index	*171*	42.6
high wealth index	*110*	27.4
Educational status of mother		
no formal education	*160*	39.9
basic education	*122*	30.4
secondary education	*60*	15.0
tertiary education	*59*	14.7
Religion		
Islam	*246**	62.0
Christianity	*151**	38.1

Source: field survey, 2015

*(some respondents omitted the question on religious affiliation)

Table 2 below presents results on the obstetric history of respondents. The mean and standard deviation for parity and number of ANC visits respectively were 2.57 ±1.53 and 5.87±1.74. The study found that majority (56.1%) had between 2 – 4 children, with a large majority (93.2%) having Antenatal care visits of 4 – 9 times. Majority (70.5%) of the respondents had their first ANC visit in the first Trimester of pregnancy. The place of delivery of current child was indicated by a majority (88.5%) as skilled delivered (facility delivery). Few (9.0%) respondents reported having experienced a still birth.

Table 2 Obstetric History of Respondents

Variable	Frequency	Percentage (%)
Parity		
1	*124*	30.9
2-4	*225*	56.1
5-7	*52*	13.0
ANC visits*		
1	*2**	0.5
2-3	*25**	6.3
4-9	*370**	93.2

Trimester of first ANC visit*		
First	*282**	70.5
Second	*111**	27.8
Third	*7**	1.8
Place of delivery of current child		
Home	*46*	11.5
Facility/skilled deliveries	*355*	88.5
History of still birth*		
Yes	*36**	9.0
No	*362**	91.0

Source: field survey, 2015

(some respondents failed to respond to questions marked)

Results on the practices of respondents on BEP are shown in table 3 below. Majority (88.5%) planned for skilled delivery while a little over half (52.9%) were aware of the need to arrange for potential blood donors. Out of the 401 respondents, 68.7% did not prepare and arrange for blood donors in case of emergency during delivery. Also, majority (77.3%) had set aside money in case of an emergency during the period of pregnancy. With regards to transport, 60.3% did arrange for transport in case of an emergency. Some 81.1% of them also indicated that they had arranged for someone to accompany them for delivery. Also, 94.2% of them said that they had prepared essential items (bed mat, detergents, delivery pad, a pair of towels, rags, etc.) for delivery.

Table 3 Practices of Respondents on Birth and Emergency Preparedness

Variable	Frequency	Percentage (%)
Arranged for skilled delivery		
Yes	355	88.5
No	46	11.5
Awareness of need to arrange for a potential blood donor		
Yes	212	52.9
No	189	47.1
Arranged for a blood donor*		
Yes	125*	31.3
No	274*	68.7
Saved money for emergency		
Yes	310	77.3
No	91	22.7
Arranged for transportation		
Yes	242	60.3
No	159	39.7
Arranged for an escort/decision maker*		
Yes	*322**	81.1
No	75*	18.9
Prepared essential items for delivery*		
Yes	375*	94.2
No	23*	5.8

Source: field survey, 2015

* (some respondents did not respond to questions marked*)

The level of BEP and knowledge in pregnancy danger signs by respondents are summarised and presented in table 4 below. Majority (61.8%) of the respondents were well prepared for skilled delivery and any emergency that might come with it, whilst the remaining 38.2% were not well prepared. Unprompted responses were also elicited from respondents on their knowledge level on danger signs of pregnancy. The study revealed that majority (56.6%) were less knowledgeable in danger signs of pregnancy.

***Table 4 Level of Birth and Emergency Preparedness and Knowledge Level in Pregnancy Danger* Signs**

Variable	Frequency	Percentage (%)
Level of BEP		
Well prepared	248	61.8
Not well prepared	153	38.2
Knowledge level on pregnancy*		
Danger signs		
Knowledgeable	**173***	**43.4%**
Not knowledgeable	**226***	**56.6%**

Source: field survey, 2015

(some respondents did not respond to question marked)

The socio-economic determinants of BEP are depicted in table 5. The study revealed that rural women were almost two times likely to be ill prepared for birth as compared to the urban counterparts and this was found to be statistically significant(Crude OR=1.99, CI: 1.33- 3.00). Age, however, was not statistically significantly related with BEP. The crude OR, however, showed that older mothers had increased odds of being less prepared for birth (OR=1.27, CI: 0.85-1.91). Educational attainment was statistically significantly related ($p<0.001$) with BEP. Respondents who attained secondary and tertiary education had decreased odds of being less prepared for birth than respondents who had no formal education and basic education. Other socio-demographic variables that showed statistical significant relationship with the level of BEP included employment status, wealth status, parity, source of BEP information, number of ANC visits and knowledge on pregnancy danger signs. Mothers who were employed, had high wealth index, had 2 or less children, had heard about BEP information from the hospital, had 4 or more ANC visits, and knowledgeable in danger signs of pregnancy were found to have decreased odds of being less prepared for birth. It was realised, however, that marital status, religious affiliation, history of still birth, and decision makers of place of delivery showed no statistical significant relationship with the level of BEP.

Table 5 Socio-economic Determinants of BEP

Variable		Crude odds ratio (cOR) (95% C.I)	Adjusted odds ratio (aOR) (95% C.I)
Residence	Urban	1.00	1.00
	Rural	1.99 (1.33, 3.00)**	1.25 (0.76, 2.05)
Age	≤ 29 years	1.00	1.00
	≥ 30 years	1.27 (0.85, 1.91)	0.87 (0.47, 1.61)
Education	At most basic school	1.00	1.00
	At least senior high	0.14 (0.07, 0.25)***	0.21 (0.10, 0.43)***
Employment	Not employed	1.00	1.00
	Employed	0.48 (0.32, 0.73)**	0.66 (0.39, 1.08)
Wealth index	Low wealth index	1.00	1.00
	High wealth index	0.30 (0.19, 0.47)***	0.39 (0.24, 0.63)***
Religion	Islam	1.00	1.00
	Christianity	0.91 (0.59, 1.39)	1.07 (0.64, 1.79)
Marital status	Married	1.00	1.00

	Not married	1.22 (0.50, 2.98)	1.65 (0.52, 5.20)
Parity	$\leq 2\ children$	1.00	1.00
	$\geq 3\ children$	1.79 (1.19, 2.70)*	1.95 (1.05, 3.63)*
Number of ANC visits	$< 4\ visits$	1.00	1.00
	$\geq 4\ visits$	0.16 (0.06, 0.40)***	0.22 (0.08, 0.59)*
History of still birth	Yes	1.00	1.00
	No	1.00 (0.41, 2.12)	1.33 (0.58, 3.04)
Decision makers of place of delivery	Self (respondent)	1.00	1.00
	Others	1.30 (0.86, 1.97)	0.63 (0.38, 1.05)
Knowledge of DSP	Knowledgeable	1.00	1.00
	Not knowledgeable	2.22 (1.45, 3.38)***	1.63 (0.98, 2.71)
Source of BEP information	Health facility	1.00	1.00
	Other sources	0.55 (0.30, 0.97)*	1.67 (0.78, 3.54)

Source: field survey, 2015* (*=P value ≤ 0.05, **=P value ≤ 0.001, ***=P value ≤ 0.001)

Discussion

This study investigated the socio-economic determinants of BEP among mothers who sought postnatal care services and child welfare services in the Wa Municipality.

The proportion of respondents who were well prepared for birth was 61.8%. The finding of Udofia et al. (2013) in a study at the Korle Bu Teaching Hospital in Ghana compares favorably with the findings of the current study. In their study, it was found that 61.9% of respondents had birth plans. The figure is, however, lower than the 75.4% found in Uttar Pradesh, India (Fullerton, Killian, Gass, 2005). The prevalence of birth preparedness in the current study is higher than the 23% found in the Sissala East District in Ghana by Kuganab-Lem et al. (2014), 16.5% reported in Ethiopia by Kaso & Addisse (2014), 22% in Ethiopia (Hiluf & Fantahun, 2007), 35% reported in Uganda by Kabakyenga, Ostergren, Turyakira, & Pettersson (2011), 7% in Kenya (Mutiso, Qureshi, & Kinuthia, 2008), and 47.8% found in India (Agarwal, Sethi, Srivastava, Jha, & Baqui, 2010). The differences could have stemmed from the nature of the studies. While the current study was conducted in an urban centre and was purely facility based, the other studies were carried out in rural settings and were largely community based cross-sectional studies. The deductions that can be made from the findings is that facility based studies most likely engage mothers with positive attitudes towards maternal and child health services as was in the case of the current study.

Urban women were two times more likely to be prepared for birth than their rural counterparts in the current study and this was statistically significant (P=0.001). Similar findings have been reported by Berhan, & Berhan (2014); Tura, Afework, & Yalew (2014); Gelaw, Biks, Alene (2014); and Markos & Bogale (2014). The reason for the positive association between urban centre and high maternal service use could be attributed to the fact that living in an urban centre is an opportunity for women to have access to formal education, better wealth, better access to mass media, and better access to health facilities (Abor et al., 2011). Conversely, living in a rural area is being in an unfavourable position for access to transport and health facilities (Berhan, & Berhan, 2014). Since rural women are almost always affected by the inequitable distribution of resources and health infrastructure, it is incumbent on the Ghana Health Service to have a strategic direction to empower women in rural communities and alleviate their inaccessibility to health care through provision of both static and mobile health posts with health personnel deployed to man those posts.

Younger mothers were found to have reduced odds of becoming well prepared for birth as compared to older mothers in this study. Similar results were observed by Bhatia et al. (2014) in India, in which the researchers revealed that older age mothers were more prepared for birth than their younger counterparts. The reason for the similarities of the studies could be due to similar socio-economic profiles of mothers in the study areas. Previous bad experience on child birth by older mothers could explain their better chances of being prepared for birth than younger mothers. Urassa, Pembe, Mganga (2012), however, had conflicting results, they found out that younger mothers had increased odds

(aOR=1.7; 95% CI: 0.9-3.4) of becoming well prepared as compared to older mothers. They also found that women of low risk ages (younger mothers) had higher birth preparedness index than women of high risk ages. The reasoning behind this assertion could be that younger mothers have less experience with child birth and are therefore fearful of the consequences of not utilising maternal health services.

Mothers who had at least secondary education had decreased odds of becoming less prepared for birth and this was highly statistically significant in multivariate analysis (P<0.001). This observation is consistent with that of Tura et al. (2014). In their study they revealed that mothers who had secondary education were about three times more likely to prepare for birth than mothers without any formal education. Similar findings have been reported by Tobin et al. (2015) where they found that having a tertiary education was significantly associated with BEP. Kaso & Addisse (2014) in their cross sectional study also observed that education was a significant determinant of birth preparedness. They found that birth preparedness was 6.23 times higher among mothers with at least secondary education than mothers who had basic education or below. Similar findings were also observed by Hiluf & Fantahun (2007). It can be opined that the significant association observed between increasing educational attainment and high birth preparedness may be due to the assertion that formal schooling exposes women to information about reproductive health and pregnancy care and also enhances women's self-efficacy in making decisions that improve their health (Tobin, Ofili, Enebeli, Enueze, 2015; Santow, 1995). It is therefore imperative for health service providers to target mothers with low or no formal education with interventions that improve their health seeking behaviour.

Bianchi (2000) and Alio & Salihu (2005) have proposed that women's labour force participation have positive impacts on higher household income, which in turn has positive impacts on maternal health care seeking behaviour. In multivariate analysis, the findings showed that being an unemployed mother decreases one's chance of preparing adequately for birth as compared to employed mothers. Mbalinda et al. (2014) reported similar findings-where they observed that unemployed mothers had decreasing odds of being knowledgeable in birth preparedness. The reason for the positive association between employment and birth preparedness could be because employment provides a platform for mothers to interact, share information about maternal health practices and programmes and also offers mothers the financial clout to take decisions that affect their wellbeing (Abor, Abekah-Nkrumah, Sakyi, Adjasi, Abor, 2011; Mencher, 1988; Kumar, 1977). The findings of Mazumdar et al. (2014) were, however, at variance with the current study. They found that working women had lower BEP index compared to house wives. This difference could be attributed to the demanding nature of some jobs and especially jobs that are not maternal health friendly.

Wealth status in multivariate analysis was found to be significantly associated with BEP (p<0.001). Mothers with low wealth index were found to have decreasing odds of preparing well for birth as compared to mothers with high wealth index. Research evidence supports this view that mothers from socio-economically advantaged households are more likely to utilise maternal health services than mothers from socio-economically disadvantaged households (Hajizadeh, Alam, & Nandi, 2014; Celik & Hotchkiss, 2000; Gage, 2007; Abor, et al., 2011). The reason for the positive association between high wealth status and birth preparedness could be due to the ability of women in high wealth index households to financially afford the cost of utilizing health services. It is found that use of health services is associated with the cost of consultation and the purchase of recommended medication alongside other indirect costs such as transportation (Arthur, 2012). Despite the fact that maternal health services are free in Ghana and even more so with the national health insurance scheme, poor households still suffer inequalities in health care use and also more likely to suffer maternal morbidity and mortality (GSS, GHS, ICF Macro, 2009). In order to nip maternal morbidity and mortality in the bud such vulnerable women should be targeted by service providers.

In multivariate analysis, mothers with few children (at most 2) were seen to be almost 2 times more likely to be prepared for birth than mothers with 3 or more children and this was statistically significant (P=0.035). The findings of Makunyi (2014) are in tandem with the findings of this study. It was realised in his study that the proportion of women that were prepared for birth increased with a decrease in parity. Similar findings were reported by studies in Kenya

and Ethiopia on determinants of utiliz ation of maternal health services, where lower parity women were more likely to seek health care than higher parity women (Ochako, Fotso, Ikamari, & Khasakhala, 2011; Birmeta, Dibaba,& Woldeyohannes, 2013; Kaso & Addisse 2014). The reason for the positive association between lower parity of women and increased birth preparedness could be ascribed to fear of the unknown, lack of birth experience, and more time and resources due to few children to be catered for ((Dagne, 2010; Jayaraman, Chandrasekhar, & Gebreselassie, 2008). Kuteyiet al. (2011) however had their results inconsistent with the findings of this study. The researchers found that multiparous women were more likely to be emergency ready as compared to lesser parity women. This could be attributed to bad experiences such women might have had in their previous births.

The results of this study showed that the number of ANC visits was significantly associated with BEP (p=0.003) with mothers who have had less than four visits having decreasing odds of preparing well for birth. Yanagisawa,Oum, &Wakai (2006) & Makunyi (2014) reported consistent results as that of this study. What might explain this positive relationship between four or more ANC visits and BEP is that mothers with four or more ANC visits may have positive attitudes towards maternal health and safe motherhood programmes, more likely to have better BEP information and more likely to be economically well off.

The study was not without limitations. There was the likelihood of recall bias since mothers were interviewed to recount their previous experiences during pregnancy and child birth. The study was purely a facility based study, involving mothers at the community level could have yielded different findings.

Conclusion

The study describes the complex socio-economic factors that influence the level of BEP of mothers in the Wa Municipality. The study concludes that mothers take up BEP services in health facilities because of the perceived advantages of embracing such services which is consequently shaped by socio-economic factors as identified in this study. Therefore, an expectant mother's uptake of BEP services can be evaluated and acted upon by analysing the socio-economic determinants of BEP that have been identified in this study, including place of residence, educational status, employment status, wealth index, and number of ANC visits. An evaluation of the combination of these determinants will be more beneficial to mothers than evaluating the determinants in isolation.

There are opportunities for better outcomes in BEP, knowledge in complications of pregnancy in the Wa Municipality. In this regard, the Municipal Health Monitoring Team should ensure that Antenatal care clinics in the municipality give due emphasis to preparation for birth and its complications and provide information and education to all pregnant women.

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