

Socio-Demographic Factors that Influence Birth Preparedness and Complication Readiness among Women Attending Antenatal Clinic at Mbagathi County Hospital, Nairobi, Kenya

Rhoda Achieng' Onono^{1*}, Rosemary Okova¹ & Nancy Maingi²

¹Mount Kenya University, ²Dedan Kimathi University of Technology

*Corresponding author: achiengrhoda@yahoo.com

Abstract

Introduction: The risk of life threatening obstetric emergencies can be faced by any pregnant woman. There is an association between neonatal and maternal mortality and morbidity and Lack of Birth Preparedness and Complication Readiness (BP/CR). The aim of the study was to identify socio demographic factors that influence birth preparedness and complication readiness among pregnant women aged 18-49 years attending ANC at Mbagathi Hospital.

Methods: Descriptive cross-sectional study design applying both quantitative and qualitative approaches to collect data from 202 purposively sampled expectant mothers (32 weeks of gestation and above) aged between 18-49 years who were attending the antenatal clinic and four nurses from the maternity department were also used as key informants. Data collection tools used were semi-structured questionnaires for the women, interview guides for one focused group discussion composed of eight mothers, and Key Informant Interviews with four nurses.

Findings: There was significant association between maternal age, marital status, and birth and emergency preparedness. Of the 85 mothers aged ≤ 24 years, 63 (74.1%) were adequately prepared compared to those aged 25-34 years, 75 (72.8%) and those aged 35 years and above, 13 out of 14 (92.9%) reported being adequately prepared for childbirth and its complications. Out of 178 married women 137 (77%) were adequately prepared for birth compared to 24 single women, of which 14 (58.3%) were adequately prepared, OR = 0.42 (0.17-1.01), $p = 0.054$. The level of education, occupation, did not show significant relationship with the level of birth preparedness and complication readiness

Conclusion and Recommendations: Socio demographic factors that have a remarkable influence on birth preparedness and complication readiness are, age and marital status. Special attention should be to clients below 20 years and unmarried pregnant women for Birth Preparedness and Complication Readiness during the Ante Natal Clinic visit.

Key words: Birth Preparedness, Complication readiness, Antenatal Care, Maternal deaths.

Introduction

Birth Preparedness and Complication Readiness (BP/CR) is a key component of globally accepted safe motherhood program. The programs help to ensure that women reach professional delivery care when labor

begins, to reduce delays that occur when pregnant women in labor experience obstetric complications (Hailu, M., Gebremariam, A., & Alemseged, F. 2011). Childbirth is often associated with unpredictable life-threatening obstetric

complications that lead to maternal and neonatal morbidity and mortality, especially in low-resource countries (Urassa, P., Pembe, B., & Mganga, F., 2012).

Indications have shown that skilled birth attendants can be increased by birth preparation hence reduced home deliveries (WHO, 2008). Inadequacy or lack of BP/CR is one of several factors contributing to maternal deaths (Urassa *et al.*, 2012).

BP/CR is recognized by World Health Organization (WHO) and other organizations to be an important and practical strategy in safe motherhood (Asp, G., Karen, P., Jacob, S., Kabakyenga, J., Agardh, A. 2014). BP/CR is a major strategy that can reduce the maternal mortality ratio. BP/CR involves making early birth preparations in order to improve maternal health outcomes Nigatu, D., Gebremariam, A., Abera, M., Setegn, T., Deribe, K. (2014). The other elements of BP/CR are activities such as, to identify a skilled birth attendant, identify a health institution for delivery and emergency, arrange transport and save money for the delivery costs (Agarwal, S., Sethi, V., Srivastava, K., Jha, P.K. and Baqui, A. 2010).

In Kenya, only 15% of women had visited ANC clinics by their fourth month. The recommended four or more visits were only attained by 58% of the women at term. Through BP/CR, women are motivated to identify a skilled birth attendant during delivery, families are encouraged to take part in to ensure a successful delivery, and communities are encouraged to take part in the care of the expectant woman. In addition, the health providers and health facilities are also called on to prepare to conduct safe deliveries and manage complications by retraining and ensuring adequate staffing, and providing a supportive environment and policies (Asp *et*

al., 2014). This paper aimed at establishing the socio-demographic factors that influence birth preparedness and complication readiness amongst pregnant women aged 18-49 years attending antenatal clinic at Mbagathi Hospital.

The need to promote safe motherhood requires assessment of the socio demographic factors that influence birth preparedness to enable the service providers to determine ways of promoting antenatal care and consequently promote safe pregnancy outcomes.

Methods

The study was carried out using a cross-sectional descriptive design applying qualitative and quantitative methods in determining the BP/CR among the pregnant women aged 18-49 years, at 32 weeks gestation or more, attending ante natal clinic at Mbagathi Hospital in Nairobi County. The study was carried on the period from 3rd to 20th May 2016. It was estimated that 350 pregnant women were attended to at the ANC every month. The sample size was 184 women aged (18- 49) years old 32 weeks gestation and above with an addition of 10% contingency which gave 202 as the final sample size.

Quantitative and qualitative data were collected from the respondents using both a semi-structured questionnaires for the women, Interview guides for Key Informant Interviews with 4 nurses, and focused group discussion with eight women.

Multiple regression analysis (CI=95%, P=0.05) was carried out to determine the causal relationship between the variables whereas Pearson's chi-square analysis (p=0.05) was carried out to determine the relationships between the dependent and the

independent variables. Pearson's Chi square was also conducted to derive inferential for the purposes of hypothesis testing.

The qualitative data was transferred into excel sheet where they were clustered according to similar themes then transferred into SPSS version 20 for analysis. Others were reported in narrative.

Permission to conduct research was granted by the Mount Kenya University Ethical Review committee. Authority was obtained from National Commission for Science, Technology and Innovation (NACOSTI), Mbagathi Hospital administration and the unit nurses in charge of labour ward and ANC. Before recruitment, an explanation on the aims and how the study was going to be conducted was given to the participants who gave informed consent. Confidentiality and anonymity of the research respondents was ensured for quality and integrity of the research, ensuring that no harm was done to the research participants.

Findings

Majority, 103 (51%) of the respondents (table 1) were aged 25-34 years, those aged 24 years and below were 85 (42.1%) and 14 (6.9%) respondents were aged 35 years and above.

The mean age (\pm SD) of the ANC attendees was 26.4 (\pm 5.1) years with a range from 18 to 43 years. One hundred and seventy eight (88.1%) of the pregnant women attending ANC at Mbagathi Hospital were married and 24 (11.9%) were single women. No respondent reported being divorced or separated.

Majority, 96 (47.5%), of participants reported that they had attained secondary level education, 55 (27.2%) had education below secondary school level, while 51 (25.3%) had tertiary level of education. Majority of the respondents 197 (97.5%) professed that they were Christians and 5 (2.5%) Islam.

Maternal age had a significant association with BP/CR. Of the 85 mothers aged \leq 24 years, 63 (74.1%) were adequately prepared compared to those aged 25-34 years, 75 (72.8%) and those aged 35 years and above, 13 out of 14 (92.9%) reported being adequately prepared for childbirth and its complications. Out of 178 married women 137 (77%) were adequately prepared for birth compared to 24 single women, of which 14 (58.3%) were adequately prepared, OR = 0.42 (0.17-1.01), $p = 0.054$.

Table 1: Associations between the socio demographic characteristics of respondents and BP/CR.

	Total		Birth preparedness		OR (95% CI)	chi square	P
	n	%	Yes n (%)	No n (%)			
Age							
<i>24 years and below</i>	85	42.1	63(74.1)	22(25.9)	5.88(1.27-27.15)	2.65	0.023
<i>25-34 years</i>	103	50.1	75(72.8)	28(27.2)	4.00(0.87-18.35)		0.075
<i>35 years and above</i>	14	6.9	13(92.9)	1(7.1)	21.67(1.80-260.57)		0.015
Marital status							
<i>Married</i>	178	88.1	137(77.0)	41(23.0)	1.0(ref)	3.89	0.049
<i>Single</i>	24	11.9	14(58.3)	10(41.7)	0.42(0.17-1.01)		

Table 2: Education/ occupation and BP/CR of the respondents

	Total		Birth preparedness		OR (95% CI)	Chi square	P
	n	%	Yes n (%)	No n (%)			
Education level							
<i>Below High school level</i>	55	27.2	40(72.7)	15(27.3)	1.0(ref)	1.66	0.435
<i>High school</i>	96	47.5	75(78.1)	21(21.9)	1.35(0.62-2.96)		0.451
<i>Tertiary education</i>	51	25.3	35(68.6)	16(31.4)	0.78(0.32-1.90)		0.59
Occupation							
<i>Trader</i>	30	14.9	21(70.0)	9(30.0)	1.0(ref)	1.24	0.743
<i>Housewife</i>	88	43.6	69(78.4)	19(21.6)	1.56(0.61-3.95)		0.352
<i>Formal employment</i>	24	11.9	17(70.8)	7(29.2)	1.04(0.32-3.38)		0.947
<i>Other occupation</i>	60	29.7	44(73.3)	16(26.7)	1.18(0.45-3.10)		0.739

Table 2 above shows that, 88 (43.6%) respondents were housewives and 72 (40.4%) reported that their spouses were businessmen $p = 0.273$. Maternal education level, occupation, and spousal occupation were not significantly associated with birth preparedness and complication readiness.

Discussion

Among the socio-demographic factors that were examined, maternal age showed an influence on the level of birth preparedness. Women 35 years old and above were better prepared (92.2%), p value 0.015, compared to those who were ≤ 24 years and 25-34 years, who were 74 % and 72.8% prepared respectively. This is in contrast to a cross sectional survey in Tanzania, where women aged 35 years and above were less prepared compared to those aged 20-34 years (Urassa *et al.*, 2014). This study finding does not agree with a result of a study done on knowledge of danger signs and birth preparedness in rural Uganda where the younger age (< 25 years) had positive influence on knowledge of danger signs during pregnancy, labour, and postpartum period compared to those >35 years (37.4% - 33.8%) (Kabakyenga, Ostergren, Turyakira, Pettersson 2011). The same result was supported by the Uganda Demographic and Health Survey report (2015) which showed women younger than 20 years of age paid more visits to the ANC and delivered with the assistance of the skilled health providers (UDHS 2015).

The level of formal education did not influence child birth preparedness in this study, where the p value was insignificant at 0.885 for those who attained university level of education. This does not agree with the report of a BP/CR study done earlier in 2008 at Kenyatta National Hospital which indicated that there was an association between education level and preparation for

childbirth and its complication. Higher level of education positively influenced child birth preparedness p value of = 0.001 (Mutiso, Qureshi, Z., & Kinuthia, J. 2008). Kuganab-Lem, Dogudugu, & Kanton, (2015) similarly reported that Health-seeking behavior is influenced by education which leads to increased knowledge on health and the available health services for women, better affordability and enhanced autonomy of which the end result is liberty to make decisions on health related issues and using maternal service of choice. The same results were reported in a study conducted in West Ethiopia which reported that the educated pregnant women had a higher likelihood chance of getting prepared for birth and complications than those who did not know how to read or write. The lack of association between maternal education and birth preparedness in the current study notwithstanding, it is due to the common understanding that formal education enable women to perceive better the need for emergency preparedness leading to better child birth preparedness (Kabakyenga *et al.* ,2011).

There were differences in distribution across education levels in this study and the one done at Kenyatta National Hospital by Mutiso *et al.*, (2008). In both studies pregnant women who had secondary school level education were (49%-47%) but one-third of all mothers in the previous study had college education compared to one in every five mothers in the current study who had college education. Similarly, a study conducted in West Ethiopia reported that educated expectant mothers had a higher likelihood of getting prepared for birth and its associated complications than the illiterate ones (Wilunda, Gianluca, Giovanni, Risa, Federico, Desalegn, 2015).

Marital status was another factor that was strongly associated with BP/CR. This study

revealed that 88.1% of married women were prepared for childbirth compared to 11.9% of the unmarried ones. This report has been supported by a community based cross sectional study on BP/CR in Adigrat town North Ethiopia, where the unmarried women were shown to be less prepared for child birth and complications compared to the married counterparts. Where culture does not encourage pregnancy out of wedlock, the unmarried pregnant women are likely to avoid being exposed (Hiluf & Fantahun, 2008).

Conclusion and Recommendations

Maternal age and marital status have influence on birth preparedness and complication readiness. The factors that did not influence birth preparedness and complication readiness were the level of education and occupation. Special attention should be focused on those below 20 years and unmarried pregnant women for Birth Preparedness and Complication Readiness emphasis during the Ante Natal Clinic visit.

References

- Agarwal, S., Sethi, V., Srivastava, K., Jha, P.K. and Baqui, A. (2010) Birth preparedness and complication readiness among slum women in Indore city, India. *Journal of Health, Population and Nutrition*, 28(4), pp.383–391.
- Asp, G., Karen, P., Jacob, S., Kabakyenga, J., Agardh A.(2014). Associations between mass media exposure and birth preparedness among women in southwestern Uganda: A community-based survey. *Global Health Action*, 7(1).
- Hailu, M., Gebremariam, A., & Alemseged, F. (2011). Knowledge about obstetric danger signs among pregnant women in Aleta Wondo District, Sidama Zone, Southern Ethiopia. *Ethiopian Journal of Health Sciences*, 20(1), pp.25–32
- Hiluf, M. & Fantahun, M.(2008). Birth preparedness and complication readiness among women in Adigrat town, north Ethiopia. *Ethiopian Journal of Health Development*, 22(5), pp.1–7.
- Kabakyenga, J., Ostergren,O, Turyakira E, Pettersson KO(2011) Knowledge of obstetric danger signs and birth pre Kenya Demographic and Health Survey, (2012). *Population and Health Dynamics. East African Medical Journal*, 5(6), p.6.
- Kenya Demographic and Health Survey, (2012). *Population and Health Dynamics. East African Medical Journal*, 5(6), p.6.
- Kuganab-Lem, B., Dogudugu, R., & Kanton, L., (2015). Birth Preparedness and Complication Readiness: A Study of Postpartum Women in a Rural District of Ghana. Scientific & Academic Publishing, 4.
- Mutiso,M., Qureshi, Z., & Kinuthia, J.,(2008). Birth preparedness among antenatal clients. *East African Medical Journal*, 85(6), pp.275–283.
- Nigatu, D., Gebremariam, A., Abera, M., Setegn, T., Deribe, K. (2014). Factors associated with women’s autonomy regarding maternal and child health care utilization in Bale Zone: a community based cross-sectional study. *BMC women’s health*, 14(1), p.79.
- Uganda Bureau of Statistics & Macro International Inc; (2015) Uganda Bureau of Statistics and Macro International Inc119-18.: Uganda Demographic and Health Survey 2015. Calverton, Maryland, USA: Uganda.

Urassa, P., Pembe, B., & Mganga, F., (2012). Birth preparedness and complication readiness among women in Mpwawa district, Tanzania. Tanzania Journal of Health Research, 14(1).

Wilunda, C., Gianluca, Q., Giovanni, P., Risa, T., Federico, C., Desalegn, A., (2015). Determinants of utilisation of antenatal care and skilled birth

attendant at delivery in South West Shoa Zone, Ethiopia: A cross sectional study. Reproductive Health; 12:74