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Original Research Article

Factors associated with level of birth preparedness among pregnant mothers at Kerugoya county referral hospital

Olive W. Karimi[1], Mary W. Murigi[2]*, Anne Pertet[3], Careena O. Odawa[3]

[1]Department of Nursing, Kerugoya County Referral Hospital, Kirinyaga County, Kenya
[2]School of Health Science, Kirinyaga University, Kirinyaga County, Kenya
[3]Department of Community Health and Development, Great Lakes University of Kisumu, Kisumu County, Kenya

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***Correspondence:**
Dr. Mary W. Murigi,
E-mail: mmurigi@kyu.ac.ke

ABSTRACT

Background: Birth preparedness is the advance preparation made by an expectant mother which ensures access to skilled care. In Africa, the risk of pregnancy related deaths is 300 times more than in the developed world. In Kenya, out of 10 expectant mothers who access antenatal care services only 4 deliver in a health facility.
Methods: This was a descriptive cross sectional study conducted at outpatient Maternal Child Health and Family Planning Clinic at Kerugoya County Hospital. The study utilized convenience sampling technique to determine the study population. The research instruments were an In-depth interview guide and semi-structured questionnaires. Data was managed using SPSS and analysis done using descriptive statistics and Chi-square tests. Statistical significance was set at $p<0.05$.
Results: A sample of 202 women participated in the study. 47.5% of the participants were adequately prepared for birth. Having a higher level of education was significantly associated with birth preparedness ($p=0.021$). The number of children per woman had a significant influence on level of birth preparedness with women who had no children less likely to be prepared for birth compared to those with one or more children ($p=0.002$). Clients who attended Antenatal Care (ANC) at least 3 times were prepared for birth compared to those who visited either once or twice ($p=0.027$).
Conclusions: Overall, women of reproductive age lack birth preparedness. There is therefore need to enhance birth preparedness awareness campaigns at ANC visits targeting women in their third trimester.

Keywords: Birth preparedness, Pregnant women, Third trimester

INTRODUCTION

Birth Preparedness is the process of preparing for a normal birth during pregnancy or emergency and the actions required to be taken in case of complications.[1] According to the Integrated Management of Pregnancy and Childbirth (IMPAC), it is a plan made by expectant mothers and should be discussed and reviewed by a skilled attendant during each Ante Natal visit and especially one month prior to the expected date of delivery.[2]

Focused antenatal care (FANC) was endorsed by WHO as one of the pillars of safe motherhood initiative (SMI) which is a global strategy to be used as a policy guideline in all facilities that offers Maternal Child Health (MCH).[2] The strategy was to reduce three major delays during childbirth that contribute to both maternal and child mortality and morbidity especially in developing countries.[3] The three delays are: delay in deciding to seek

medical care, delay in reaching the health facility and delay in receiving care at the health facility. Advance birth preparedness is therefore required to minimize these delays and ensure all mothers receive skilled health care during and after childbirth.[4]

In Kenya, according to the Kenya Demographic Health Survey (KDHS)2008/09, the maternal mortality rate was at 488/100,000 live births with 42% of mothers accessing skilled deliveries which means that over 50% of mothers and newborns are in danger should any complication occur during delivery or after.[5] By the year 2015 maternal deaths according to the millennium development goals were to be reduced to about 147 /100,000 live births. According to KDHS 2014/15, Maternal mortality is still unacceptably high at 362/1000 live births in Kenya.[6] According to the National Road Map of 2010 in the Ministry of Health in Kenya over 50% of deliveries in the country among Kenyan women are attended by unskilled persons.[7] Also 92% of pregnant women access ANC services but only 43% deliver in a health facility which is below the target of 90% by 2015.[7]

The reasons for the non-improvement in maternal health are delays in decision making and seeking care when problems occur. Birth preparedness is aimed to assist expectant mothers to have enough resources for use during the birth process and to access timely skilled care at birth.[8] Lack of advance planning for childbirth is one of the contributing factors why pregnant mothers delay in seeking and reaching the health care facilities. There is considerable time for this preparation as the duration of pregnancy is long.

Pregnancy and childbirth complications in Kerugoya County Referral Hospital, Kenya have been a challenge. Despite the high ANC attendance of 90%, mothers still arrive in maternity in second stage of labour resulting to maternal complications. No study has been done in Kirinyaga County on the level of birth preparedness. Thus the findings from this study will contribute to the existing knowledge on birth preparedness and generate further discussions on how to make pregnancy safe at the same time improve on the maternal and newborn health in the County and the country at large.

METHODS

The study was a descriptive cross sectional survey conducted at outpatient Maternal Child Health and Family Planning Clinic (MCH/FP) at Kerugoya County referral Hospital. The study took place between the months of August 2015 to April 2016. The study population was pregnant mothers attending ANC at Kerugoya County Referral. The unit of analysis was those pregnant mothers who had reached 28 weeks and had attended the clinic at least once previously. The study utilized convenience sampling. The sampling strategy was to sample to saturation. Any eligible woman who visited the health facility and consented was enrolled until the researcher achieved a sample size of 212 women. The research instruments were an In-depth interview guide and self-administered semi-structured questionnaires. Quantitative data analysis was conducted using statistical analysis for quantitative data was performed using IBM Statistical Package for Social Sciences (SPSS). The data analysis involved descriptive statistics and Chi-square tests. Descriptive statistics were used to describe the demographic characteristics, while Chi-square test was used to show the relationship between demographic and socioeconomic characteristics and level of birth preparedness. Statistical significance was set at $p<0.05$.

RESULTS

Socio demographic characteristics of the participants

A total of 212 women took part in the study. The mean age of the study subjects was 26.1 (±5.6 SD) years. The majority 61.9% of the study participants were of the age group 20-30 years. Most of the respondents 57.1% only had a primary level education which is the basic education in Kenya. 75.9% of the women were married and majority had between one to two children 66.9% (Table 1).

Table 1: Socio- demographic characteristics.

Variable	Frequency	Percentage (%)
Age	less than 20 years	12.4
	20 to 30 years	61.9
	over 30 years	25.7
Religion	Protestant	64.4
	Catholic	33.7
	Muslim	2.0
Education	Tertiary	5.8
	Secondary	26.7
	Primary	67.5
Occupation	Housewife	4.5
	Farming	62.9
	Business	6.4
	Salaried	21.8
	Other	4.5
Marital status	Single	4.5
	Married	75.7
	Other	2.0
Number of children	0	30.7
	1	34.2
	2	32.7
	3	2.5
Number of ANC visits	<4 Visits	52.0
	≥4 Visits	48.0

Level of birth preparedness

An overall composite level of preparedness was classified into two, prepared or not prepared. If any combination of at least three positive actions were mentioned, this was

referred to as 'prepared', otherwise preparedness was classified as 'not prepared'. Results showed that overall 47.5% were prepared for birth while majority were not prepared. All women were prepared by saving some money and all of them had identified place of delivery (Figure 1).

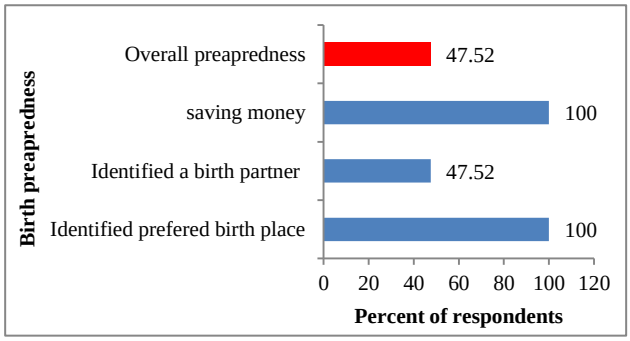

Figure 1: Level of birth preparedness.

Association between demographic factors and birth preparedness

A woman's age was significantly associated with birth preparedness. Younger women aged less than 25 years were 1.4 times likely to be birth prepared compared to those aged above 25 years. Noteworthy is that Marital status of the pregnant women had no association with birth preparedness (p=0.736) (Table 2).

Association between socio economic factors and birth preparedness

Majority of the respondents 57.43% had primary education while 26.7% had secondary school education. Of those who had secondary education, 96.3% had birth preparedness compared to those who had primary education. Religion had no influence on birth preparedness. However the number of children the women had, had a significant influence on level of birth preparedness. Women who had no children were less likely to be prepared for birth compared to those with one child (OR=0.4; 95%CI= [0.2-0.8] or 2 children (OR=0.3; 95%CI= [0.1-0.6]). The number of ANC visits was associated with birth preparedness. Of those who attended ANC at least 3 times or more, 51.6% of them were prepared for birth compared to 32.6% of those prepared but only visited ANC either once or twice (p=0.027).

Table 2: Association between demographic factors and birth preparedness.

	Overall (N=202)	Birth preparedness		Odds ratio (95% CI)	P value
	N (%)	Yes N (%)	No N (%)		
Age					
25 years and below	97 (48.01)	55 (56.7)	42 (43.3)	1.4[1.1-3.6]	0.012
>25 years	105 (51.98)	41 (39.05)	64 (60.95)		
Marital status					
Single	45 (22.73)	20 (44.44)	25 (55.56)	0.9[0.6-1.3]	0.736
Married	153 (77.27)	73 (47.71)	80 (52.29)		

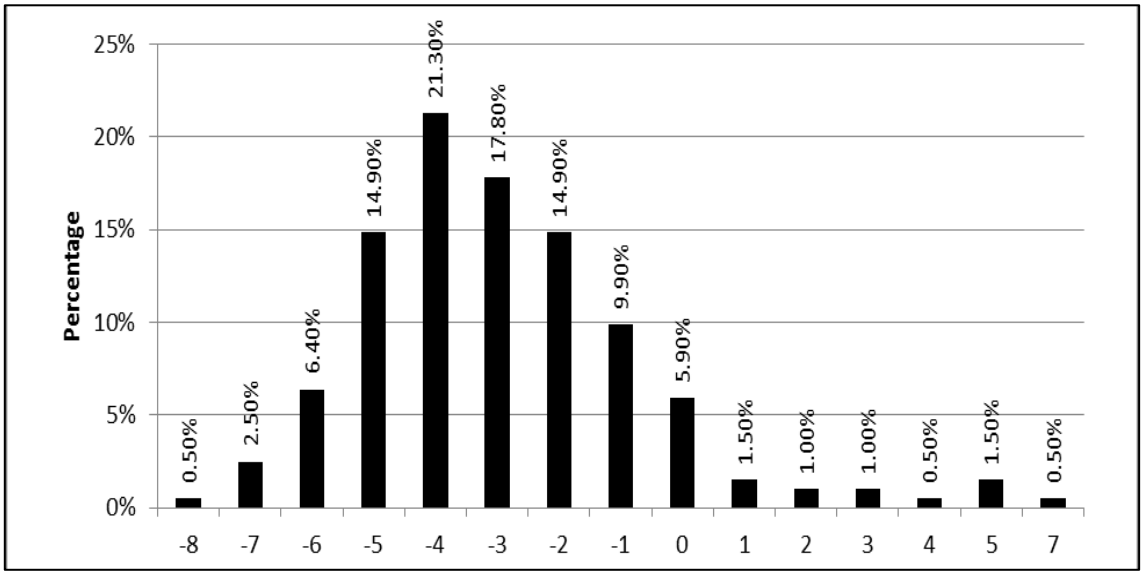

Figure 2: Perception of women on birth preparedness.

Table 1: Association between socio economic factors and birth preparedness.

	Overall (N=202)	Birth preparedness		Odds ratio (95% CI)	P value
	Overall	Yes	No		
	N (%)	N (%)	N (%)		
Education level					
Tertiary	32 (15.84)	32 (100)	0 (0)	NA	0.993
Secondary	54 (26.73)	52 (96.30)	2 (3.7)		0.021
Primary	116 (57.43)	12 (10.34)	104 (89.66)	Ref	-
Religion					
Protestant	130 (64.36)	60 (46.15)	70 (53.85)	Ref	-
Catholic	68 (33.36)	34 (50.0)	34 (50)	0.9[0.5-1.5]	0.607
Muslim	4 (1.98)	2 (50.0)	2 (50.0)	0.9[0.1-6.3]	0.879
Number of children					
0	62 (30.69)	19 (30.65)	43 (69.35)	Ref	-
1	69 (34.16)	36 (52.17)	33 (47.83)	0.4[0.2-0.8]	0.014
2	66 (32.67)	39 (59.09)	27 (40.91)	0.3[0.1-0.6]	0.002
3	5 (2.48)	2 (40.0)	3 (60.0)	0.7[0.1-4.3]	0.667
ANC visits					
1-2	43 (21.29)	14 (32.56)	29 (67.44)	0.6[0.4-0.9]	0.027
3 and above	159 (78.71)	82 (51.57)	77 (48.43)		

Perception of women on birth preparedness

The perception was assessed using a Likert-scale questionnaire. Six indicators of women perception of birth preparedness were used in this analysis. The likert scale values were as follows; strongly disagree (-2), disagree (-1), neutral/don't know (0), agree (1) and strongly agree was coded (2). Mean of the 6 indicators was calculated as scores. Overall, amongst the 202 women mean perception score was found to be (-2.93) ±2.35 SD). The distribution given in Figure 2 indicated that in all the six indicators the perception towards birth preparedness was negative and those with positive perception were below 5%.

DISCUSSION

Overall, majority 52.5% of the women were not prepared for birth. During the in depth interview the women were found to save money through women groups which apparently was the norm in the rural set up. In addition to this although all the mothers (100%) attempted to save money mostly to 'buy clothes for baby" and 'cotton wool", transport arrangements did not seem to appear as part of birth preparedness and this contributes to the delay in reaching the health facility as time is wasted as means of transport is sought. This concurs with the report by the National Road Map on Maternal and Newborn Health 2010 that one of the reasons for non-improvement of maternal and newborn indicators in Kenya is delay in reaching the health facility.[7]

This study established that the age of the women was significantly associated with birth preparedness. Younger women aged 25 years and below were 1.4 times more likely to be birth prepared compared to those aged 25 years and above. This is consistent with a study on factors associated with the use of maternal health services in southern Nigeria which showed younger mothers were more likely to prepare for childbirth than their elder counterparts.[9] Yet another study done in southern Ethiopia titled birth preparedness and complication readiness also indicated that mothers who were aged 25 years and below were more likely to prepare for birth than their older counterparts.[10]

The study established that the number of children the women had was significantly associated with level of birth preparedness. Women who had no children were less likely to be prepared for birth compared to those with one child or two children. A study conducted in urban slums in Kenya found that the likelihood of preparing and delivering at a health facility significantly decreased as parity increases.

Results from this study also established that women who had secondary education, 96.3% had birth preparedness compared to 10.34% of those who had primary education. From the in-depth interviews, education enabled them to understand the importance of birth preparedness as they could also get information from other sources as magazines since they can read. A woman who is educated is able to make wise decisions about her own health than one who is not.[11] The status of women is likely to be enhanced by education which helps them to develop greater confidence and the capacity to make decisions in regard to their own health.[12]

Noteworthy, is that marital status had no influence on birth preparedness. This however contradicts with a study conducted in north Ethiopia which showed women who were married were more likely to prepare for birth than the single women due to the cultural beliefs.[13]

CONCLUSION

Birth preparedness is one of the components in Focused Antenatal Care that can be used to increase skilled deliveries in the country. As the International Community works towards Sustainable Development Goal of zero maternal deaths, there is need to target women in third trimester on birth preparedness to ensure risk of unskilled delivery is significantly reduced. There is need therefore for enhanced health education and awareness campaigns targeting women in their third trimester on birth preparedness.

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