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Full Length Research Paper

Health education on HIV testing, family planning, immunization, breastfeeding, Neonatal Cord Care and danger signs to mothers at the Naivasha District Hospital, Nakuru County, Kenya

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The millennium development goal (MDG) 5 aims at lowering the maternal mortality by 75% by 2015 from the 1990 baseline statistics. The least developed countries have made progress to achieving this goal. Kenya has not achieved this target and the maternal mortality has increased. Other the other hand, neonatal sepsis cause early neonatal morbidity and mortality while childhood vaccine preventable infections, malnutrition, HIV and malaria contribute to under five child mortalities. The role of health education cannot be overemphasized. Our study evaluated the health education to postnatal mothers at the Naivasha District Hospital, Nakuru County Kenya. The method used was a cross sectional study where 96 participants were recruited and interviewed to determine if they had been provided with the selected aspect of health education. Ethical and administrative approval was sought. We analyzed the data using SPSS Version 17. The results, 96 (vaginal delivery 66; Caesarean Section 33) participants were recruited into the study. Their mean age was 25.5years (±6.2). 5.2% were never educated while majority had been educated on at least 3 items. Caesarean Section women were less likely to receive health education. There was no association between health education and maternal, marital status, level of education. Low parity was associated with health education. The health education below optimal. Women who delivered via CS were less likely to be provided with health education.

Keywords: Health education, family planning, immunization, breastfeeding, umbilical stump, Kenya

INTRODUCTION

Background

More than three hundred thousand women die during pregnancy and childbirth every year worldwide. For every woman who dies another thirty suffer long-lasting injuries and illnesses (Fortney et al., 1996). Maternal health is inextricably linked with the survival of the newborn. In Kenya, it has been established that ninety two percent of all women attend the antenatal clinics at least once during their pregnancy (KNBS and ICF Macro, 2010).Unfortunately on half of these deliver under supervision of skilled birth attendants. There are gross disparities in health seeking habits between rural and urban populations, uneducated and educated populations as well as variation from one income bracket to another. Reducing maternal mortality is one of the targets of Millennium Development Goal 5. Review of the Millennium Development Goals (MDGs) indicates that Kenya, like other resource poor and least developed counties, has not met the set targets (The Millennium Development Goals Report 2010 and CBS, MOH, ORCM, 2009). A major obstacle to achieving the health

related Millennium Development Goals (MDGs) is the weak the health systems in many low- and middle-income countries, and their struggle to effectively provide health care to populations in need (Bennett et al., 2008). In Kenya, the estimates of deaths related to pregnancy and childbirth have increased over the decades (KNBS and ICF Macro, 2010). Maternal mortality remains one of the main challenges in sub-Saharan Africa and indeed many other resource poor settings (Magadi et al., 2003).

There is need to adopt a preventive approach towards tackling maternal and neonatal mortality and morbidity. The role of health education can never be over emphasized. Haider et al (1996) demonstrated that by providing counseling on breastfeeding improved exclusive breastfeeding to 60% compared to only 6% in the control group. Additionally, the advantages of breastfeeding have been documented in both the mothers and infants (Mihrshahi et al., 2008) . Haider et al (1997) emphasized that maternal and child health facilities should include lactation counseling as an integral part of their programs to improve child feeding practices.

Improving breastfeeding through health education and counseling also reduces child mortality from respiratory illnesses (Mihrshahi et al., 2008). Counseling on HIV resting to mothers has been cited as integral in reducing mother to child transmission of the disease (Wachira et al., 2014). Studies have indicated that knowledge of HIV status positively influences early antenatal clinical attendance (Gill, 2014). The ability to care for the umbilical cord of the neonate prevents neonatal sepsis and the associated complications (Gigli, 2014). Neonatal tetanus is also a major cause of neonatal mortality in resource poor settings. Poor cord care increased the risks of acquiring neonatal tetanus (Jeena et al., 1997). A study in Benin showed that the eventual health cord care practices were influenced by many factors. 50.3% identified nurses' indisposition as the main determinant (Abhulimhen-lyoha and Ibadin, 2012). Ireland also indicated that other factors that influence cord care practices include age, level of education and number of children (Ireland et al., 2000). Steyer (2004) identified counseling at a key component in improved uptake of childhood vaccines.

Our study focused on evaluation of counseling services offered to women who delivered at the Naivasha Hospital on family spacing, HIV testing, danger symptoms, umbilical cord care, immunization and breastfeeding. We evaluated factors that influence counseling of mothers on the identified six areas.

METHODS

Study design

This was a cross sectional study design. All participants recruited for this study were interviewed once and their medical records reviewed once to obtain data on vital signs monitoring. Women excluded from the study included those very sick to participate, those who declined to participate and those referred from other facilities in puerperium.

Study area

The study was carried out at the Maternity Unit of the Naivasha District Hospital. Naivasha District Hospital is owned and run by the Government of Kenya, situated in Naivasha Town of Nakuru County. Naivasha town is approximately ninety kilometers North West of Nairobi and located on the shores of Lake Naivasha. The facility serves an estimated population of half a million persons. The hospital has sixteen post delivery beds. There are two consultant obstetricians who provide services at the facility. There are five medical officers and ten midwifes in the Unit. The maternity unit runs on 24hours basis.

Study population, design and sampling

The target population was women who delivered at Naivasha District Hospital at the time the study was conducted. The participants were women who delivered at Naivasha District Hospital during the study period. They were randomly recruited after delivery. Study participants were randomly selected and consent sought to conduct an interview. This study was carried out over two months.

Ethical clearance for the study

Ethical approval was obtained from the Kenyatta National Hospital/University of Nairobi Ethics Review Committee (KNH/UON ERC). Voluntary and informed consent was sought before the participants were recruited and interviewed. Confidentiality was strictly observed at all times.

RESULTS

Demographic characteristics

A total of 96 participants were recruited in the study. Sixty six study participants had had vaginal delivery. The mean age was 25.5 (SD 6.2; range 16-40yrs). All the participants had attained some formal education. Only 4.2 percent of participants had tertiary education. Majority were married while 56% had more than one child. Majority of participants were unemployed and almost all were Christians. 69% resided within the Naivasha Municipality. Table 1 highlights the sociodemographic characteristics of the respondents.

Table 1: Socio demographic characteristics of study participants n=96

Variables	Percent	Variable	Percent
Formal education of participant		**Occupation of the participants**	
Primary	67.7%	Employed	14.6%
Secondary	28.1%	Unemployed	70.8%
College	4.2%		
		Religion of the participants	
Marital status of participants		Christian-Protestant	74.0%
Single	12.5%	Christian catholic	25.0%
Married	87.5%	Muslim	1.0%
No. of children of participants		**Residence of the participants**	
One	44.8%	Within the municipality	68.8%
Two	28.1%	Outside the municipality	31.3%
Three	20.8%		
Four	5.2%		

Table 2: Distribution of health information patterns N=96

Areas of post delivery counseling	Counseled (%)	Not Counseled (%)
Need for HIV testing	87.5	12.5
Family spacing	55.2	44.8
Full immunization of infant	80.2	19.8
Breast feeding and need for breastfeeding	65.6	34.4
Umbilical cord care	73.7	26.3
Infant illness danger signs	65.6	34.4

Table 3: Relationship between the mode of delivery and health education n= 96

	Mode of delivery		
Ares of counseling	**Vaginal Mode (n=63)**	**Caesarean Mode (n=33)**	**P value**
Need for HIV test N (%)	57(90.5%)	27(81.8%)	0.22
OR (95%CI)	1.0	0.9(0.8-1.1)	
Family spacing N (%)	48 (66.7%)	11 (33.3%)	**0.002**[a]
OR (95%CI)*	1.0	0.5(0.3-0.8)	
Full immunization N (%)	55(87.3%)	22(66.7%)	0.016
OR (95%CI)*	1.0	0.8(0.6-0.99)	
Breast feeding N (%)	48(76.1%)	15(45.2%)	**0.003**[a]
OR (95%CI)*	1.0	0.6(0.4-0.9)	
Umbilicalcord care N (%)	49(79.0%)	21(63.6%)	0.105
OR (95%CI)	1.0	0.8(0.6-1.1)	
Danger signs N (%)	47(74.6%)	16(48.4%)	0.01
OR (95%CI)*	1.0	0.6(0.4-0.95)	

*(**a**) Statistically significant association*

Distribution of health education administered to mothers

Majority of women received counseling on all the six areas assessed. The least addressed aspect was family spacing. Table 2 shows distribution of health education provision to the mothers.

Mode of delivery and counseling

We found out that there was strong association between the mode of delivery and health education provided to mothers. This was recorded for counseling on family planning and breastfeeding. Women who delivered vaginal delivery mothers were more likely to be counseled on breastfeeding (p = 0.003). This might have been probably due to the time they require to recover from anesthesia. The association between the modes of delivery and health education on the six key areas is summarized in Table 3 and 4.

Table 4: composite attributes of counseling N=96

Number of guideline recommended areas of instruction	Number of clients (%)
Received no information at all	5.2% (5)
Received information on One area only	3.1% (3)
Received information on two areas only	9.4% (9)
Received information on three areas only	10.4% (10)
Received information on four areas only	16.7% (16)
Received information on five areas only	24% (23)
Received information on all six areas	31.3% (30)
Total	**100% (96)**

Table 5: Association between maternal age and health education provided to the mothers

	Average age in years (SD) n=96		P value
Area of counseling	Counseled	Not Counseled	
Need for HIV testing	25.2(6.2)	27.4(6.5)	0.25
Family spacing	25.8(6.0)	25.1(6.6)	0.6
Full immunization	25.6(6.3)	24.8(5.9)	0.6
Breast feeding	25.2(6.1)	26.1(6.4)	0.51
Umbilical cord care	25.0(6.1)	27.0(6.3)	0.17
Danger signs	26.0(6.3)	24.5(6.0)	0.27

Table 6: Association between the maternal level of education and health education

Ares of counseling	Primary	Secondary	Tertiary	P value
Need for HIV testing N (%)	55(84.6%)	26(94.3%)	3(75%)	0.23
Family spacing N (%)	34(52.3%)	16(59.3%)	3(75%)	0.6
Full immunization N (%)	52(80%)	22(81.4%)	3(75%)	0.95
Breast feeding N (%)	40(61.5%)	20(74.1%)	3(75%)	0.47
Umbilical cord care N (%)	48(75%)	19(70.4%)	3(75%)	0.9
Danger infant signs N (%)	42(64.2%)	18(66.7%)	3(75%)	0.91

Table 7: Association between Maternal parity and Health education

	Parity		
Ares of counseling	**Para 1; n=43**	**Para 2 +; n=53**	**P value**
Need for HIV testing N (%)	39(90.7%)	45(84.9%)	0.39
OR (95%CI)	1.0	0.9(0.8-1.1)	
Family spacing N (%)	26 (60.5%)	27 (50.9%)	0.35
OR (95%CI)	1.0	0.8(0.6-1.2)	
Full immunization N (%)	36(83.7%)	41(77.4%)	0.44
OR (95%CI)	1.0	0.9(0.8-1.1)	
Breast feeding N (%)	31(72.1%)	32(60.4%)	0.23
OR (95%CI)	1.0	0.8(0.6-1.1)	
Umbilical cord care N (%)	37(86.1%)	33(63.4%)	0.01
OR (95%CI)*	1.0	0.7(0.6-0.9)	
Danger signs N (%)	26(60.5%)	37(69.8%)	0.34
OR (95%CI)	1.0	1.2(0.9-1.6)	

Maternal age and health education

Our study shows there is no significant association between maternal age and provision of health education. Table 5-7 below shows the association

DISCUSSION

The study population was evenly distributed with range

of 16-40yrs and average age of 25.4±6yrs. This distribution is typical for rural population. The majority of respondents had attained either primary or secondary level of education.

We established that health education was generally provided to the clients at the facility. The least emphasized was family spacing. This could be due to either cultural factors or low prioritization of the topic. The low level of education of family spacing could explain the existing unmet contraceptive needs in Kenya (The Millennium Development Goals Report, 2010). The low uptake of contraceptives amongst Kenyan women accounts for rapidly increasing population (KNBS and ICF Macro, 2010).Our study did not establish the reasons for low level of health education on family spacing. A great majority of respondents were counseled on HIV testing. One possible reason for this could be heightened campaign to integrate HIV testing into maternal health programs to stem vertical transmission. Samb et al (2009) has argued that where there is deliberate domestication of global programs by the country there are improved health indicators. And the best time to initiate these programs is during the antenatal period (WHO). Only 19.8% were not counseled on immunization. In Kenya the immunization coverage is relatively high compared to other sub-Saharan countries (KNBS and ICF Macro, 2010).

We found out that there was association between mode of delivery and maternal health education. Women who delivered via C/section were less likely to be educated on family spacing (p= 0.002). The same group of respondents were less likely to be counseled on breastfeeding (p=0.003). Studies show that in Kenya the level of exclusive breastfeeding is generally low (KNBS and ICF Macro, 2010). There is need to strengthen systems to improve uptake of practices that improve both maternal and child health (Bennett et al., 2008). Mitral et al (1995) has suggested that improved breastfeeding practices greatly reduced both diarrheal and respiratory related deaths. 72% of the women interviewees reported having been counseled on at least for topics while 5.2 percent reported not to have had any counseling at all. Our study concurs with findings of a study by Wachira et al (2014) who documented high levels of counseling to women it rural settings.

Our study did not establish significant relationship between maternal age, level of education, parity and the health education provided to mothers. Studies have shown that the very young mothers, poorly educated and primiparous women tend to receive more counseling in hospitals (Haider and Islam, 1996). There is need to establish the reason of this lack of association between these characteristics and health education received at the facility.

CONCLUSION

From our findings, we recommend that owing to critical role of health education in preventing maternal morbidity and mortality, stringent measure should be put in place to ensure all women seeking care in facilities are accorded the health education. This will minimize lost opportunities when critical issues as discussed above can be addressed and stressed.

Authors' contributions

1. Fredrick Kairithia Mibuku was involved in all stages of this work from conceptualization to manuscript drafting and revision.
2. Joseph G. Karanja participated in proposal development and preparation of the manuscript.
3. Eunice Cheserem was involved in proposal development and preparation of the manuscript.
4. Kinuthia John was involved in study proposal writing, data collection and preparation of this manuscript.
5. Wamalwa Dalton was involved in preparation of study proposal, formulation of study tool, data collection and preparation of this manuscript.

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Conflict of interest

The authors disclose no conflict of interest in this study and publication

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