Demographic Factors Influencing Pregnancy Outcomes Among Pregnant Women Seeking Health Care In Health Facilities In Mwingi Sub-County, Kenya

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Abstract:

Background: Maternal health services (MHS) provide primary, secondary, and tertiary levels of prevention to achieve better pregnancy outcomes. Addressing pregnancy and childbirth outcomes such as still births, preterm births and neonatal deaths have continued to be a major global challenge.

Methods: This analytical cross-sectional study was done among pregnant women at Mwingi Sub-county health facilities. Data collection employed both qualitative and quantitative parameters in the study. A stratified sampling approach was used to select respondents. Quantitative data was analyzed using SPSS computer software and presented using tables, graphs and cross tabulations, while association between variables was assessed using Chi-square statistics. Thematic analysis was done on qualitative data from KII.

Results: More than three quarter of respondents (82.3%) had desirable recent pregnancy outcome and pregnant women below 30 years were more likely to have poor pregnancy outcome, however age of delivery was not significantly associated with poor pregnancy outcome in this study (x^2=2.564, P- value= 0.861), similarly, rate of poor pregnancy outcome decreased with increase of gestation at birth. This was strongly associated with poor pregnancy outcome (x^2=30.430, P- value= 0.0001).

Conclusions: Pregnancy outcome is a contribution of various factors; on socio-characteristics factors, determined by marital status which is significantly associated (p=0.024).Thus, the Sub-County Health management committee to propose allocation of funds to improve facilities in the hospitals and community to enhance proper focused antenatal care (FANC), family planning (FP), basic obstetric care (BOC) and emergency obstetric care (EmOC).

Keywords: pregnant women, reproductive age, pregnancy outcome, maternal health, antenatal care.

I. INTRODUCTION

Pregnancy outcome refers to results of pregnancy, which may be normal or abnormal. A baby's death whenever or however it occurs is a profound loss. The prevalence of stillbirth is on average three times more common in the less developed areas of the world than in the more developed areas. The vast majority of the world's 3.2 million annual stillbirths occur in low- and middle-income countries. Globally, two-thirds to three-quarters of stillbirths may occur antenatally, before labour begins. Those intrapartum deaths are closely linked to place of, and care at, delivery and are largely avoidable with skilled care. In developing countries, just over 40% of deliveries occur in health facilities and little

more than one in two with the assistance of a doctor, midwife or qualified nurse. The stillbirth rate is a reflection of health status and policies, socioeconomic indicators relate to health and access and adequacy of health care.

Pregnancy outcomes such as still births, preterm births, and miscarriages account for a large proportion of perinatal loses. Each year, an estimated 904 000 intrapartum-related neonatal deaths occur, accounting for approximately one-third of the early neonatal deaths. Early neonatal deaths occur during the perinatal period, and have obstetric origins and are largely avoidable [2]. Preterm birth and low birth weight are leading causes of neonatal and infant mortality, as well as short- and long-term morbidity. Maternal demographic characteristics such as age, parity, and birth order and pregnancy interval may directly influence perinatal mortality. High stillbirth and early neonatal mortality rate have been associated with unattended deliveries compared with hospital-based deliveries.

Many factors including diseases, health service factors, reproductive factors and socio-economic factors have been linked with maternal and neonatal mortality risks. Pregnancy outcomes such as still births, preterm births, and miscarriages account for a large proportion of perinatal loses, early neonatal deaths occur during the perinatal period, and have obstetric origins and are largely avoidable. Preterm birth and low birth weight are leading causes of neonatal and infant mortality, as well as short and long-term morbidity in Mwingi subcounty. Maternal demographic characteristics such as age, parity, and birth order and pregnancy interval may directly influence perinatal mortality and high stillbirth and early neonatal mortality rate have been associated with unattended deliveries compared with hospital-based deliveries. There is limited documentation of factors contributing to pregnancy outcomes in Mwingi Subcounty. This is because there has not been similar study carried out in this area. Most parts of Mwingi Subcounty have poor terrain which makes accessibility to health facilities difficult especially during emergency situations thus most maternal and neonatal deaths may go unreported. This is also a subcounty with a TFR of 7.2 compared to the country's TFR of 4.3. The sub-county has a Doctor – Patient ratio of 2: 156, 471 whereas the WHO recommends 1:600. Doctors provide maternal and neonatal care especially during emergency situations. According to the 2015 County Health statistics, there were 100 maternal deaths per 100 000 and child mortality rate was 57 per 1000. There were 59 stillbirths and 113 (4.13%) low birth weight babies. These are alarming figures in which the factors leading to this need to be identified. Therefore, this study sought to identify the factors that contribute to pregnancy outcomes in Mwingi sub-county.

II. METHODS

The study was carried out in Mwingi Sub-County Hospital and the six health facilities in the wards in Mwingi sub-county, Kitui County. Analytical cross-sectional design utilizing both quantitative methods (using interviewer-administered questionnaires) and qualitative methods (use of Key Informant Interviews with selected health professionals)

of data collection was used among the pregnant women selected through stratified sampling methods. Data collection was carried out using the interviewer-administered questionnaire and key interviewer guide. Data was analyzed using SPSS version 23.0 and presented in form of tables, figures and narration. Descriptive and univariate analyses and multivariate logistic regression tests was performed. Descriptive statistics such as means and frequencies was calculated for respective characteristics. Graphs and tables were used to present the findings where appropriate" and also narration was used.

III. RESULTS

SOCIO-DEMOGRAPHIC CHARACTERISTICS OF STUDY RESPONDENTS

More than half (56.1%) of respondents were below 30 years, 59.1% were married and 63.6% had secondary education or higher (Table 1).

Characteristics		Frequency	Percent
Age	15-19 years	83	20.7%
	20-24 years	77	19.2%
	25-29 years	65	16.2%
	30-34 years	68	17.0%
	35-39 years	60	15.0%
	40-44 years	47	11.7%
	45-49 years	1	0.2%
Marital status	Married	237	59.1%
	Separated	24	6.0%
	Single	131	32.7%
	Widowed	9	2.2%
Residence	Urban	141	35.2%
	Rural	260	64.8%
Education	Primary incomplete	43	10.7%
	Primary complete	103	25.7%
	Secondary	186	46.4%
	College/University	69	17.2%
Religion	Christian	377	94.0%
	Muslim	24	6.0%

Table 1: Socio-Demographic Characteristics of study respondents

SOCIO-ECONOMIC CHARACTERISTICS OF THE RESPONDENTS

More than half of the respondents (54.4%) were unemployed with 41.4% of their partners being self-employed. Approximately 35% had an average monthly income of between Ksh 1000 – 5000 (Table 2).

		Frequency	Percent
Respondents employment status	Employed	70	17.5%
	Housewife	16	4.0%
	Self employed	83	20.7%
	Student	14	3.5%
	Unemployed	218	54.4%
Partner employment status	Employed	83	34.7%
	Self employed	99	41.4%
	Student	15	6.3%
	Unemployed	42	17.6%
Type of	Temporary	67	16.7%

house	Semi-permanent	221	55.1%
	Permanent	113	28.2%
Ownership	Rental	102	25.4%
	Own home	299	74.6%
Monthly income	Less than Ksh1000	112	27.9%
	Ksh 1000 – 5000	139	34.7%
	Ksh 5001 – 10 000	61	15.2%
	Above Ksh 10 000	89	22.2%

Table 2: Socio-Economic Characteristics

DISTRIBUTION BY OBSTETRIC HISTORY

Slightly more than half (52.1%) had 2-3 deliveries with 40.1 % giving birth at age between 15-19 years (Table 3).

		Frequency	Percent
Parity	First delivery	143	35.7%
	2-3 deliveries	209	52.1%
	4-5 deliveries	43	10.7%
	More than 5 deliveries	6	1.5%
Gestation at birth	32 weeks	31	7.7%
	33-34 weeks	25	6.2%
	35-36 weeks	35	8.7%
	37 weeks	263	65.6%
	Above 37 weeks	47	11.7%
First birth age	Below 15 years	34	8.5%
	15-19 years	161	40.1%
	20-24 years	145	36.2%
	25-29 years	38	9.5%
	30 years and above	23	5.7%

Table 3: Distribution by Obstetric History

RECENT PREGNANCY OUTCOME

More than three quarter of respondents (82.3%) had desirable recent pregnancy outcome, 8.0% of respondents had preterm birth, 3.5% had stillbirth and miscarriage each (Figure 1).
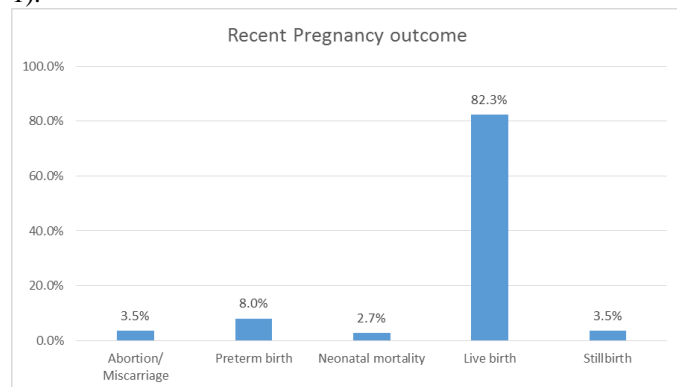

Figure 1: Recent Pregnancy Outcome

SOCIO-CHARACTERISTICS FACTORS ASSOCIATED WITH PREGNANCY OUTCOME

Respondents below 30 years were more likely to have poor pregnancy outcome, however age of delivery was not significantly associated with poor pregnancy outcome in this study (x^2=2.564, P- value= 0.861) (Table 4).

		Pregnancy outcome		Chi square	p-value
		Good	Poor		
Age	15-19 years	71(21.5%)	12(16.9%)		
	20-24 years	63(19.1%)	14(19.7%)		
	25-29 years	51(15.5%)	14(19.7%)		
	30-34 years	58(17.6%)	10(14.1%)	2.564 df 6	0.861
	35-39 years	47(14.2%)	13(18.3%)		
	40-44 years	39(11.8%)	8(11.3%)		
	45-49 years	1(0.3%)	0(0.0%)		
Marital status	Married	200(60.6%)	37(52.1%)		
	Separated	19(5.8%)	5(7.0%)	2.795 df 3	0.024
	Single	105(31.8%)	26(36.6%)		
	Widowed	6(1.8%)	3(4.2%)		
Residence	Urban	115(34.8%)	26(36.6%)	0.080 df 1	0.777
	Rural	215(65.2%)	45(63.4%)		
Education	Primary incomplete	35(10.6%)	8(11.3%)		
	Primary complete	79(23.9%)	24(33.8%)	3.282 df 3	0.350
	Secondary	158(47.9%)	28(39.4%)		
	College/University	58(17.6%)	11(15.5%)		
Religion	Christian	310(93.9%)	67(94.4%)	0.019 df 1	0.891
	Muslim	20(6.1%)	4(5.6%)		

Table 4: Socio-characteristics factors associated with pregnancy outcome

SOCIO-ECONOMIC FACTORS ASSOCIATED WITH PREGNANCY OUTCOME

The rate of poor pregnancy outcome decreased with increase of gestation at birth. This was strongly associated with poor pregnancy outcome (x^2=30.430, P- value= 0.0001) (Table 5).

		Desirable	Poor	Chi square	p-value
Parity	First delivery	123(37.3%)	20(28.2%)		
	2-3 deliveries	163(49.4%)	46(64.8%)	6.396 df 3	0.094
	4-5 deliveries	38(11.5%)	5(7.0%)		
	More than 5 deliveries	6(1.8%)	0(0.0%)		
Gestation at birth	32 weeks	5(1.5%)	26(36.6%)		
	33-34 weeks	8(2.4%)	17(23.9%)		
	35-36 weeks	14(4.2%)	21(29.6%)	30.430 df 4	0.0001
	37 weeks	258(78.2%)	5(7.0%)		
	Above 37 weeks	45(13.6%)	2(2.8%)		
Employment status	Employed	55(16.7%)	15(21.1%)		
	Housewife	13(3.9%)	3(4.2%)		
	Self employed	72(21.8%)	11(15.5%)	1.981 df 4	0.739
	Student	12(3.6%)	2(2.8%)		
	Unemployed	178(53.9%)	40(56.3%)		
Type of house	Temporary	53(16.1%)	14(19.7%)		
	Semi-permanent	186(56.4%)	35(49.3%)	1.239 df 2	0.538
	Permanent	91(27.6%)	22(31.0%)		
Ownership	Rental	80(24.2%)	22(31.0%)	1.401 df 1	0.237
	Own home	250(75.8%)	49(69.0%)		
Monthly income	Less than Ksh1000	88(26.7%)	24(33.8%)		
	Ksh 1000 – 5000	117(35.5%)	22(31.0%)	4.805 df 3	0.187
	Ksh 5001 – 10 000	55(16.7%)	6(8.5%)		
	Above Ksh 10 000	70(21.2%)	19(26.8%)		

Table 5: Socio-Economic Factors Associated with Pregnancy Outcome

IV. DISCUSSION

The study findings show that respondents below thirty years were a lot of probably to own poor physiological state outcome though not related to poor pregnancy outcomes. This but isn't in agreement with a study by Bierhoff et al, wherever maternal age, notably the bounds of fruitful age (35 years), was detected as a risk issue for adverse pregnancy outcomes. According to a study by Skinner, maternal age in the 2 extremes affects pregnancy outcome. In this study, respondents with 2-3 deliveries had higher rates of poor pregnancy outcome. This is divided with a study on pregnancy outcomes among the adolescents in Kenya's South Nyanza unconcealed that comparatively higher incidence of physiological state wastage is discovered among initial pregnancies, pregnancies out of wedlock and extremely young maternal age. Further the results of this study are inconsistent with knowledge from KDHS findings that discovered that there's typically Associate in Nursing hyperbolic risk of death for higher-order births. This can be attributed to risks of complications related to multiparity which embody malpresentation, female internal reproductive organ atony, precipitate labour and PPH among others which might result in poor pregnancy outcome. A population based mostly retrospective cohort study by Smith found out that second births in girls aged 15-19 were related to Associate in Nursing hyperbolic risk of moderate and extreme immatureness and stillbirths. The findings of a study by Alharbi et al. unconcealed that there's a major increase within the antepartum mortality, the speed of caesarean section, prenatal maternal medical complications and also the incidence of postnatal hemorrhage among the grand- multiparas.

There was an association between the marital status and poor pregnancy outcome, however married and single couples had higher rates of poor pregnancy outcome. These findings agree with the findings of a study which revealed out that with respect to pregnancy wastage, marital status seems not to be the significant factor. This could be attributed to the social stress that come about with the status or other cultural practices which may affect the fetal well-being and even the up-bringing of the baby which could lead to neonatal mortality as a result of poor nutrition or infection especially in situation where the parent does not have a stable source of income. Similar findings were obtained in another study by Alharbi et al. which found out that the rate of preterm births and low birth weight babies at term were higher among the unmarried compared to the married population. Another study by Aboneaaj found out that mothers who are unmarried are at increased risk of adverse birth outcomes compared to married women.

V. CONCLUSION

Pregnancy outcome is a contribution of various factors; on socio-characteristics factors, determined by marital status which is significantly associated (p=0.024). All the other variables were not associated. The Sub-County Health management committee to propose allocation of funds to improve facilities in the hospitals and community on reproductive health issues through health education to enhance proper focused antenatal care (FANC), family planning (FP), basic obstetric care (BOC) and emergency obstetric care (EmOC). Further, women should be educated on factors that may lead to low gestation delivery so as to avoid preterm births

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