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Abstract

Purpose: The postnatal period is an important link in the continuum of maternal and neonatal health. The study's main objective was to determine the factors influencing utilization of postnatal care services among mothers with children aged 7-14 weeks attending child welfare clinic at Kisii Teaching and Referral Hospital.

Methods: This study was Descriptive Cross-sectional study. The target population was 268 mothers with children aged between 7-14 weeks who attended child welfare clinic. Semi-structured interviewer administered questionnaire were used in data collection. Data from questionnaires was analyzed using IBM SPSS version 23. Logistic regression was fitted, Possible association and statistical significance were measured using odds ratio at 95% confidence interval and $p<0.05$.

Results: The proportion of mothers who utilized postnatal services was 35.8%. Mothers who received very friendly reception were more likely to utilize postnatal care services (OR 8.5, 95% CI 2.4 to 11.5, P=0.006). Furthermore, mothers who were taught about postnatal care services during antenatal clinic were more likely to utilize postnatal care services (OR 2.3, 95% CI 1.2 to 4.4, P=0.008).

Unique Contribution to Theory, Practice and Policy: The study shows unacceptably low utilization of postnatal care services**.** Education, parity, place of delivery and awareness were found to be significantly associated with utilization of postnatal care services. Benefits of postnatal care services utilization should be urgently emphasized through strengthening the provision of information, education and communication.

Key Words: *Postnatal care, Child welfare clinic, Age, Maternal child health*

INTRODUCTION

The postnatal period is an important time in the life of the mother and child. Care received during this period is important for preventing morbidity and mortality in mothers and newborns [(2)]. The care during puerperium for the woman has influence on maternal health if the woman does not attend post-natal care services and yet this is one of the most important maternal health-care services for not only prevention of impairment and disabilities but also reduction of maternal mortality [(3)]. The United Nations have set targets for 2030 to further reduce child and maternal mortality [(4)].

Considerable progress has been made globally in improving maternal health. Around the world, 72% of women give birth attended by skilled personnel [(5)] and the maternal mortality ratio has decreased from 380 to 210 per 100,000 live births between 2000 and 2013. Postnatal care reaches even fewer women and newborns: less than half of women receive postnatal care visit within 2 days of childbirth [(6).]

The objectives of postnatal care services are to support the mother and the family in the transition to a new family constellation, prevent, early diagnosis and treat complications of the mother and infant, counsel on baby care, support breastfeeding, counsel on maternal nutrition and provide contraception service and immunize the infant. With limited resources, contact with the health care system at least during the first twenty four hours and before the end of the first week would be the most effective strategy for reducing maternal and neonatal deaths [(7)].

Maternal mortality is a major concern of maternal health in developing countries like Kenya, up to two third of maternal death occur during the postnatal period. In Kenya the maternal mortality ratio is at 362 deaths per 100000 live births and utilization of postnatal is 52% [(8)] with the risk of dying being 1:20 which is still high ,although the government of Kenya have made a big milestone in the introduction of free maternal services and the Linda Mama initiative which have impact on reducing preventable deaths of women and children but, these did not translate into adequate use.

Evidence showed that utilization of postnatal is influenced by factors such as maternal age, parity, awareness of postnatal services, education level and occupational status of the mother. However, factors influencing utilization of postnatal care vary from region to region in relation to socio-economic and cultural behaviors of a given society. Thus, determining factors influencing utilization of postnatal care in the study area is important to design public health intervention to improve utilization of postnatal care. Therefore, this study was aimed to determine factors that influenced utilization of postnatal care services among mothers with children aged 7-14 weeks attending child welfare clinic at Kisii Teaching and Referral Hospital.

METHODS

The study was descriptive cross-sectional study targeting 268 mothers with children aged 7-14 weeks attending child welfare clinic at Kisii Teaching and Referral Hospital. Systematic random sampling was used to determine the sample size, Mothers who consented with children

aged 7-14 weeks were included in the study while guardians with children aged 7-14 weeks were excluded.

Data was collected using a pretested semi-structured interviewer administered questionnaires which captured socio-demographic and economic characteristics, utilization of postnatal services, health service and facility factors influencing utilization of postnatal care.

Analysis was done using IBM SPSS version 23 after cleaning, coding and entry. Logistic regression using backward method was then performed, possible association and statistical significance were measured using odds ratio at 95% confidence interval and $P<0.05$. Results were presented in tables, graphs, mean and percentages

Consent from the participants as well ethical clearance were dully obtained from Kenyatta National Hospital/University of Nairobi Ethics Review Committee.

RESULTS

A total of 268 mothers with children aged 7-14 weeks were recruited into the study while care givers with children aged 7-14 weeks were excluded. Mean age of the participants was 26.94($\pm$ 5.74) years with a median of 27 years (range 17-45 years).

Socio-demographic and socio-economic characteristics

Results indicate that 52.9% of the participants who had utilized post-natal care services were aged 21 – 30 years, 52.5% had secondary education, 55.9%were married, 62.3 % had 2 to 3 children, 40.8% were unemployed,26.1% lived in semi-urban residence, and 31.1% had access to o a health facility which was 0-5 kilometers.

Table 1: Summarizes the Socio-demographic and socio-economic characteristics of mothers utilizing postnatal care services

Characteristics	N (%)	Utilization of Postnatal care services	
		No, N (%)	Yes, N (%)
Age			
15 - 20	32 (11.9)	20 (62.5)	12 (37.5)
21 - 30	187 (69.8)	88 (47.1)	99 (52.9)
31 - 40	46 (17.2)	14 (30.4)	32 (69.6)
41 - 50	3 (1.1)	2 (66.7)	1 (33.3)
Highest level of education			
No formal education	3 (1.1)	2 (66.7)	1 (33.3)
Primary school	72 (26.9)	36 (50.0)	36 (50.0)
Secondary school	158 (59.0)	75 (47.5)	83 (52.5)
Post-secondary	35 (13.1)	11 (31.4)	24 (68.6)
Marital status			
Married	236 (88.1)	104 (44.1)	132 (55.9)
Single	30 (11.2)	19 (63.3)	11 (36.7)
Separated/divorced	2 (0.7)	1 (50.0)	1 (50.0)
Number of children			
1	120 (44.8)	69 (57.5)	51 (42.5)
2 -3	122 (45.5)	46 37.7)	76 (62.3)
4 - 5	24 (9.0)	7 (29.2)	17 (70.8)
More than 5	2 (0.7)	2 (100)	0
Occupation			
Formal employment	65 (24.4)	49 (75.4)	16 (24.6)
Agricultural/Retail	27 (10.2)	18 (66.7)	9 (33.3)
Unemployed	174 (65.4)	103 (59.2)	71 (40.8)
Place of residence			
Rural	90 (33.9)	43 (47.8)	43 (47.8)
Urban	61 (22.9)	43 (70.5)	18 (29.5)
Semi-urban	115 (43.2)	85 (73.9)	30 (26.1)
Accessibility (Kilometers)			
0 - 5	90 (34)	62 (68.9)	28 (31.1)
6 - 10	85 (32)	46 (54.1)	39 (45.9)
11 - 15	58 (21.9)	36 (62.1)	22 (37.9)
More than 15	32 (12.1)	26 (81.3)	6 (18.3)

N - Number; **(%)** - Percentage

Utilization of postnatal care services

Figure 1 and table 2, shows a summary of mothers who utilized postnatal care services. The study showed that 35.8% utilized postnatal services.

Figure 1: Proportion of mothers utilizing postnatal care services

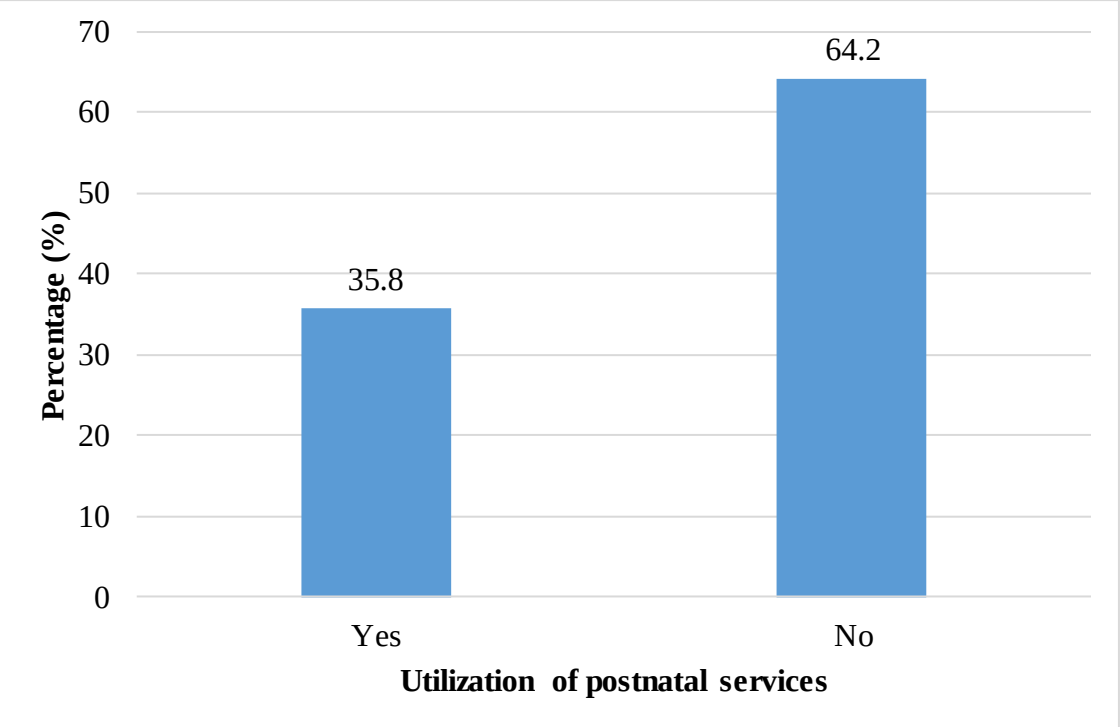

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Table 2: Utilization of postnatal care services

Variable	Unit	Frequency (N)	Percentage (%)	X^2	df	P
Place of delivery	Home	102	38.1	48.213	1	<0.001
	Health facility	166	61.9			
First medical assesment after delivery	No	126	47	18.533	1	<0.001
	Yes	142	53			
Duration of first medical assesment after delivery	Hours	87	61.3	9.089	3	0.028
	Days	29	20.4			
	Weeks	16	11.3			
	Do not know	10	7			
Knowledge on attendance of postnatal care service within the first six weeks after delivery (number of times)	1	95	35.4	8.676	4	<0.001
	2	46	17.2			
	3	23	8.6			
	4	8	3			
	Do not know	96	35.8			
Two weeks postnatal care services	Yes	113	42.2	4.783	1	0.029
	No	155	57.8			
Postnatal services received	Treatment	9	8	3.046	3	0.385
	Immunization	82	72.6			
	Family planning	5	1.9			
	Postnatal checkup (mother and the baby)	21	18.6			
Awareness of postnatal care services	No	118	44	19.64	1	<0.001
	Yes	150	56			
Information on postnatal care services	Friends	7	5.1	0.808	3	0.848
	Media	25	18.4			
	Health workers	102	75			
	Other	2	1.5			

SD - Standard deviation; **N** - Number; (%) - Percentage; X^2 - Chi square test; **df** - degree of freedom; **P** - P value (level of significance <0.05)

Health service provider and health facility factors

Table 3 shows Health provider and health facility factors influencing utilization of postnatal care. Mothers who received very friendly reception were more likely to utilize postnatal care services (OR 8.5, 95% CI 2.4 to 11.5, P=0.006). Mothers who were taught about postnatal care services during the antenatal clinic were more likely to utilize postnatal care services (OR 2.3, 95% CI 1.2 to 4.4, P=0.008.

The level of information received, challenges incurred when receiving postnatal care and being happy with provision of postnatal care were not associated with health provider and health facility factors influencing utilization of postnatal care.

Table 3: Health provider and health facility factors

Health provider and health facility factors	Unit	N (%)	Utilization of Postnatal care services		P	OR (95% CI)
			No, N (%)	Yes, N (%)		
Reception at the health facility	Very friendly	36 (13.6)	35 (97.2)	1 (2.8)	0.006	8.588 (2.433 - 11.242)
	Friendly	174 (67.7)	138 (79.9)	35 (20.1)	0.054	2.336 (0.984 - 5.546)
	Hurriedly	23 (8.7)	19 (82.6)	4 (17.4)	0.13	0.794 (0.738 - 10.580)
	Rude	5 (1.9)	2 (40)	3 (60)	0.347	0.392 (0.056 - 2.763)
	Slow	27 (10.2)	17 (63)	10 (37)		Ref
Teaching about postnatal care during ANC	Yes	127 (47.7)	110 (86.6)	17 (13.4)	0.008	2.347 (1.245 - 4.426)
	No	139 (52.3)	102 (73.4)	37 (26.6)		Ref
Level of information you received	Excellent	28 (21.5)	26 (92.9)	2 (7.1)	0.19	6.5 (0.396 - 6.712)
	Good	73 (56.2)	65 (89.0)	8 (11)	0.274	4.062 (0.330 - 5.002)
	Fair	26 (20)	20 (76.9)	6 (23.1)	0.697	0.667 (0.128 - 1.732)
	Poor	3 (2.3)	2 (66.7)	1 (33.3)		Ref
Challenges incurred when receiving postnatal care services	Yes	27 (10.3)	18 (66.7)	9 (33.3)	0.079	0.461(0.194 - 1.094 0
	No	235 (89.7)	191 (81.3)	44 (18.7)		Ref
Happy with provision of post natal care services	Yes	234 (90)	192 (82.1)	42 (17.9)		Ref
	No	26 (10)	16 (61.5)	10 (38.5)	0.016	0.350 (0.148 - 0.825)

N - Number; (%) - Percentage; **P** - P value (level of significance <0.05); **OR** - Odds Ratio; **CI** - Confidence interval

Discussion

This study documented a low utilization of postnatal care services at Kisii Teaching and Referral Hospital as only 35.8% of the respondents utilized postnatal care services ,this is a far cry from the recommended by the government of Kenya and World Health Organization [5]. This confirms postnatal services are poorly utilized and the weakest in maternal neonatal continuum of care, despite the fact these services are available and free of charge few mothers utilize it and these could be as a result of mothers doesn't know it's importance or the health care givers does not schedule mothers based on the national postnatal care follow up and failure to stress on the importance of postnatal care which in turn puts the future of the mother and the children in a compromised state and this is a concern. Postnatal care utilization is essential in promoting and maintaining the health of the mother and the newborn, while providing an opportunity for the health care workers to identify, monitor and manage health conditions that may have developed in the mother and newborn during the postnatal period. Although this study shows a high uptake of 35.8% as compared to 14.2% in Nyeri general hospital [9]. There are still below the national figure of 52% who utilized Postnatal care services [8].

In this study, it was established that the majority about 70% of the respondents were aged between 21 to 30 years which was in line with a study done in Nyeri Provincial Hospital [9]. It is well recognized that age plays an important role in women's utilization of maternal health services. Since older and young women have different experience; and influence, their behavior on seeking Postnatal care also vary, younger women might have enhanced their knowledge on modern medicine and are more likely to utilize modern health facilities than older women who claims that they have experience in handling their health issues.

A mother's education has a positive influence on postnatal care. Findings of this study revealed that 59% attained secondary education and 26.9% acquired post-secondary education and had better utilization of postnatal care as compared to illiterate women. This result were inconsistent with a study done in Kenya , [11] which suggested that women with education beyond primary

school, women living in urban areas, women attending Antenatal Clinic at least 4 visits and women delivering in health facilities are more likely to use postnatal services compared to other women. This could be explained that education has a positive input in enhancing female autonomy and help them develop greater confidence and have greater ability to use health care inputs that offer better health outcomes

88% of the births in the present study occurred among women who were married, Marital status is an important socio-demographic characteristics of an individual that affects the underlying tendency to seek health in Africa [(12)]. This could be the reason as to why single mothers and more so those who gave birth out of the wedlock utilized postnatal care in few number due to fear of social misconduct.

Number of children is another obstetric factor found to be significantly affecting the use of postnatal care. With respect to birth order, this study showed that with each additional birth, utilization levels decreases. This is consistent with evidence from a study conducted among mothers in rural Nepal [(2)]. The chances of utilizing Postnatal care decreased in mothers who get pregnant for four and above than those with below three children, as the number of pregnancy increases the probability of giving birth in health institution decreases implying that mothers seek modern obstetric care for their first pregnancy than for the subsequent pregnancies because they believe that they are experienced and exposure in matter concerning obstetrics.

In regard with place of residence, often rural – urban differences in utilization of maternal health services reflect the existing differences in access to health services and opportunities [(13)]. Our findings showed that majority of the study participants resided in semi-urban, 43.2%. This could be attributed to in semi-urban areas mothers may have good awareness about the advantage of postnatal care services and had a better educational status than the rural residents, mothers in towns may get easy access to health institutions and health care providers when compared with rural residents. Other studies have, however, highlighted poor maternal health outcomes associated with urban poverty [(14)] especially in the poor slum settlements associated with major urban centers.

Distance from health facility remains a major problem as shown in the previous literature; utilization of health services is strongly associated with access to the health facility [(15)] in this study, those mothers who traveled a distance below 5Km where more likely to utilize Postnatal care than those from a distance above 15 Km. This may be inferred to the cost of travel in terms of money and energy. From this study, distance to the health facility was found to influence utilization of PC because majority 34% resided in areas that were < 5 kilometers away from the health facility. This findings were similar with other studies that documented distance to the health facility to be a factor in the uptake of postnatal care, [(4)]

Mothers and newborns are deemed to have utilized postnatal services if attended by a health care worker at least three times in the postnatal care period. In this study, less than half of the women 35.8% received Postnatal care services at least three times as recommended [(5)]. This is far below the national figure of 52% who received a postnatal checkup in their last live birth [(8)]. Similarities were shown by previous studies conducted locally; in Nyeri general hospital 14.2% [(9)], in Kiambaa Kiambu County 45.1% [(10)] and one conducted in Kenya 47% [(11)]. This is a

confirmation that Postnatal care services are poorly utilized and the weakest in maternal neonatal continuum of care compared to Antenatal care attendance of 98% and delivery with skilled attendance of 70% [8]. The poor uptake of postnatal care services imply that for many mothers and their infants the continuum of care is disrupted during this critical period when lack of appropriate care could result in significant poor health and even death. Timing of Postnatal visit is very important and in this study only 42.2% attended postnatal clinic within two weeks, similar to a study done in Uganda which reported 15.4% had postnatal care within a week [16]. Low utilization of postnatal care has been related to lack of knowledge about its importance, lack of access to health facility and women tendency to give priority to health needs of their infants than their own.

Place of delivery was a major factor predicting Postnatal utilization in our study, mothers who delivered their last baby in a health institution utilized Postnatal care more when compared with those who delivered at home. The association of Postnatal care services utilization with place of delivery can be attributed to the fact that women who gave their last births in health facility have greater opportunity to get exposed to health education associates to Postnatal care services at the time of delivery and hence get access to learn about the types, benefits and availabilities of Postnatal services during their stay in a health facility. This exposure increases health care seeking behaviors to prevent maternal and infant complications compared to those mothers who gave birth at home. Furthermore, those women who gave birth at home belong to more traditional cohort and hence become less likely to use Postnatal services [17]. Our findings were contrary with a study conducted in Uganda which indicated that, majority of the women opted for home births ,and about a quarter of them delivered at a health facility [13].

Although majority of women 56% acknowledged the importance of Postnatal care services in broader sense but they did not know when should seek those services, in practice the visits were meant for immunization and monitoring progress of their young ones and less so for women's health and this occurred after six weeks. Similar studies done in Ethiopia found that those women who had got information about Postnatal care from health care workers and nurses were more likely to attend postnatal care services compared to those women who got information from other sources [18] that many women reported that Postnatal services were for the infants to receive vaccination when due. Women sometimes do ignore negative health outcomes that can occur during puerperium which jeopardize their health; therefore [5] recommends Postnatal care for all women and the young ones, including those assessment of both physical and mental well-being. These findings may conclude that the postnatal care service uptake is highly influenced by the knowledge of women on postnatal care benefits.

Perceived quality of services was found to be predictive of postnatal care utilization with a bias of good services. Respondents who rated reception at the health facility as friendly were 65.7%. Those taught about postnatal care during Antenatal care visit were 47.7% and those who acknowledge the level of information received as good were 56.2% more likely to utilize postnatal care as compared to those rated the services as poor. Previous studies highlighted that promptness of care, competence of health workers, desire for privacy, perceived availability of equipment, friendliness of staff were all determinants of utilization of health care services [4].

Disrespectful care has been documented as a key barrier to the uptake of services [19]. 52.3% of the women were not taught or informed about postnatal care services by the health care workers during their antenatal visits. Similar findings have been documented that, they did not receive appointments for the services on discharge and therefore were not aware of them [15]. Besides, respondents reported poor relational practices of health providers, a situation often attributed to poor working conditions among health professionals [20], also poor relationship between women and health attendants' affects women's health seeking practices. This indicates that factors which influence maternal health service utilization may not only be attributed to specific background characteristics of users but also those associated with the attitude of health attendants and the health systems in general. Opening hours of health facilities (usually operate between 9:00am-01:00pm) only weekdays, may also affect mothers from seeking postnatal care. This conflicting time schedule may provide an explanation for the decreased likelihood of postnatal care attendance amongst mothers. This suggests that greater attention to the users' and health providers' perspective needs to be considered for service improvement.

Postnatal care services utilization is an integral part of maternal and child health care; it is connected with the physical, nutritional and emotional well-being of the mother and their newborn [5]. Several studies have concentrated on the issues of maternal and neonatal mortality because of the negative impact they have on the national health scenario. However, studies on postnatal care utilization which is an essential component of maternal and child health is scanty with no published studies on factors influencing utilization of Postnatal care services in Kisii county.

Conclusion

The findings of this study revealed that the level of utilization of postnatal care services is still alarming, unacceptable and limited in Kisii, even though relatively higher results were registered as compared to a study conducted in Nyeri Provincial Hospital, but still below when compared to the Kenya Demographic Health Survey of 2014 results. Despite the availability of postnatal care services and abolished user fee, these did not translate into adequate use; postnatal care services are poorly utilized and the weakest in the maternal neonatal continuum of care when compared with antenatal and skilled deliveries.

Age, level of education, employment status, and place of delivery, awareness and knowledge of postnatal care services taught during Antenatal care were significant factors that influenced utilization of postnatal care service. Based on the findings of this study, stakeholders should evaluate the service periodically from the users' perspective to maintain quality of services through strengthening provision of information, education and communication to increase postnatal care service utilization.

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