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Utilization of Post-Natal Care Services and Associated Factors among Mothers Attending Jinja Regional Referral Hospital

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ABSTRACT

Postnatal care (PNC) is defined as care given to the mother and her newborn immediately after the birth of the placenta and for the first six weeks of life. There has been no research carried out on the utilization of PNC services at Jinja Regional Referral Hospital. Therefore, this study was conducted in order to identify the barriers and factors associated with PNC service utilization at Jinja Regional Referral Hospital, so as to enable the different stakeholders at the facility level to design appropriate interventions on how to improve PNC services utilization at the facility and the district at large. This study was conducted using a descriptive and analytical cross-sectional survey. Mothers attending antenatal care clinics, and mothers on maternity wards under post-natal care were selected and a total of 384 mothers were interviewed. A checkup list was used to collect data concerning health facilities and mothers utilizing PNC services were conducted. Quantitative data were analyzed using a statistical package for social sciences (SPSS) version 22.0. It was found that 350(91.15) of the respondents had utilized PNC services while only 34(8.9%) of the participants had not utilized the service. Marital status, distance to the facility, delivery place, immunization, being given an immunization card, and being educated about early signs and symptoms of postnatal complications had a statistically significant association with the utilization of PNC services. Married mothers $P \leq 0.001$; (aOR=0.80; 95%CI: 0.024-0.266) had reduced chances of utilizing PNC services compared to single mothers. Mothers within a distance of 1-2 km $P=0.021$; (aOR=2.302; 95% CI: 1.132-4.681) were more than twice like to utilize PNC services compared to those who were in a distance of >2km. It was also found that mothers who delivered from the general hospital $P=0.005$; (aOR=4.615; 95%CI: 1.573-13.541) and health centers 2, 3 and 4 $P=0.014$; (aOR=2.892; 95%CI: 1.241-6.736) had increased chances of utilizing PNC services compared to those delivered from the villages or at home. Immunization was positively associated with utilization of PNC $P \leq 0.001$; (aOR=8.040; 95%CI: 3.201-20.193). Similarly, getting an immunization card was positively associated with $P \leq 0.001$; (aOR=8.040; 95%CI: 3.201-20.193). Mothers who were educated about early signs and symptoms of postnatal complications $P=0.001$; (aOR=11.53; 95% CI: 2.746-48.45) were more than eleven times more likely to utilize PNC compared to those who were not educated. The utilization of PNC services at Jinja Regional Referral Hospital was high (91.1%) and the associated factors were marital status, distance to the facility, delivery place, immunization, being given an immunization card, and being educated about early signs and symptoms of postnatal complications had a statistical significance association with utilization of PNC services.

Keywords: Postnatal care, Maternal and neonatal deaths, Newborn baby, Maternal death, Immunization.

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INTRODUCTION

Postnatal care is defined as care given to the mother and her newborn baby immediately after the birth of the placenta and for the first six weeks of life [1]. The majority of maternal and neonatal deaths occur during childbirth and the postpartum period. Scaling up maternal and newborn health through proper postnatal care services is the best way of reducing maternal and neonatal mortality [2-4]. Globally, there has been considerable progress toward the quality of post-natal services (PNSs), but underutilization of the same still remains the major underlying cause of registered and unregistered maternal and newborn mortalities and morbidities across the world [5, 6]. Most maternal and infant death occurs in the first 24 hrs. Globally, WHO [1], estimated 287,000 maternal deaths occur worldwide annually with 87% of this unacceptably high number coming from Sub-Saharan Africa and South Asia [7-9]. In 2015, it was estimated by WHO that 830 women died and out of which 550 occurred in Sub-Saharan Africa. WHO recommends mothers and newborns to receive PNC in a health facility within the first 24hrs after birth if it occurs in the health facility, while otherwise if it occurs elsewhere the first PNC should be as soon as possible after first contact suggestively in the first 24hrs. All the above should be followed by at least three additional postnatal contacts. During this period the health care provider helps the mother and the newborn to establish and maintain contact with a number of health care services in the short and long term [10]. Essential services rendered will include; counseling on early and exclusive breast feeding, iron and folic acid supplements, nutritional advice during lactation period, treatment of infections, hemorrhage, postnatal depression, family planning, training of skills of new born care at home, and recognition of dangers signs necessitating seeking for hospital intervention, immunization services, special care for preterm and low birth weight, neonates, monitoring of growth and development, among others [1, 11-13]. Eclampsia, hypertension disorder, sepsis, and unsafe abortion among others are the major causes of maternal death [14-16]. Considerable progress has been made globally in improving PNC where 72% of women give birth by skilled personnel and the maternal mortality rate tremendously decreased from 380 to 210 per 100,000 live births from 2000 to 2013. Yet in South Asia and Sub-Saharan Africa, only 69% and 48% of women give birth with the assistance of skilled health personnel respectively. An analysis from 23 sub-Saharan African countries of both demographic and health-related factors found that only 13% of women who deliver at home receive PNC within the first 2 days of delivery, hence suggesting that PNC programs are among the weakest of all Reproductive and Child health programs utilized in Africa. Similar data from studies put it clear that the problem is no better either in East Africa or Uganda. And to be specific, a study by the World Bank in 2016 reports 54.3% postnatal care coverage in Uganda [17].

Despite all the resources put into maternal and child health care programs by WHO and the different regional governments through their local health facilities, underutilization of PNC services still exist among women who attend antenatal care services and had their deliveries in the hospital. The general problem in Jinja Regional Referral Hospital is the low turn-up of mothers for postnatal services. Therefore, the aim of this study is to determine the determinants of the utilization of postnatal services among mothers at the facility.

METHODOLOGY

Research Design

The study design was a descriptive and analytical cross-sectional survey, with close-ended questionnaires.

Location of the Study

Jinja regional referral hospital is located in the eastern region of Uganda in the center of Jinja district, not far from the source of the Nile River. It is the Regional Referral Hospital for the districts of Bugiri, Iganga, Jinja, Kaliro, Kamuli, Luuka, Mayuge, Namayingo, Kayunga, and parts of Buikwe. The hospital is located approximately 84 kilometers (52 mi) east of Mulago National Referral Hospital. The coordinates of Jinja Regional Referral Hospital are 00°25'52.0"N, 33°12'18.0"E (Latitude:0.431111; Longitude:33.20500).

Study Population

The study population was done among mothers aged 15-49 years at Jinja Regional Referral Hospital

Sampling Techniques and Sample Size

Purposive sampling was conducted among mothers who attended the postnatal clinic at Jinja Regional Referral Hospital.

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Sample size

The sample size was determined using the formula by Fisher et al, 1998 for a population size greater or equal to 10,000 was used. $n = \frac{z^2 pq}{d^2}$ Where n is the desired sample size.

Z is the standard normal deviate usually set at 1.96

P is the population in the target population estimated to have a particular characteristic

q= 1.0-P

d Absolute error=5%

P=50%=0.5

Therefore, taking

$$P=0.5 \quad Z=1.96 \quad q=0.5 \quad d=0.05 \quad n = \frac{(1.96)^2(0.5)(0.5)}{(0.05)^2}$$

n=384 mothers

Research Instruments

The structured interviewer-administered questionnaires were used to collect the data

Data Collection Techniques

Administration of questionnaires was done to collect quantitative data. The questionnaires were close-ended items for ticking yes or no, making choices among a number of possible alternatives, and filling in items. The questionnaires were translated into Luganda and Lusoga languages which are the most common languages in Jinja District.

Validity and Reliability

Development of the instrument was taken so that the words used won't have any ambiguities; the pre-test was done to find out whether the respondents could interpret all the questions in the same way. Reliability was ensured through the selection and training of five research assistants who were engaged in the pre-test.

Data Analysis

The questionnaires were checked for completeness and consistency of information at the end of every field data collection and before storage. Data computing was done using Excel Software, then cleaned, recorded, and entered into the computer using the statistics and data software (STATA) version 14.2 for Windows analysis.

Logistical and Ethical Consideration

Logistical consideration

The permission to carry out the study was sought from the appropriate university administrators, the western campus research committee, the district Health Officer in Jinja district, the head of the department Obstetrics and Gynecology department at Jinja Regional Referral Hospital, and the participants who'd participate in the study.

Ethical consideration

Informed consent was sought from each respondent before participation. Privacy and confidentiality were safeguarded throughout the course of the study. Data obtained from the study using questionnaires were kept securely. No personal identification of the participants was noted on the questionnaires but codes will be used instead of their names. Participation in the study was based on the choice of the respondent.

RESULTS

Socio-demographic characteristics of the respondents

It was found that more than half 218(56.8%) of the respondents were aged 20-35 years while less than a quarter 64(16.75%) were above 35 years as shown in Table 1 below. Similarly, more than a lf 250(65.1%) of the respondents

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were multiparous whereas only 37(9.6%) were grand-multiparous. Regarding marital status, the majority 363(94.5%) of the participants were married while only 9(2.3%) were single. Nearly a half 175(45.6%) of the respondents had studied up to the secondary level while just more than a quarter 98(25.5%) had only studied up to the primary. It was found that the majority 235(61.2%) of the respondents' husbands had studied up to tertiary level while only 12(3.1%) had studied up to the primary. Also, the majority 164 (42.7%) of the respondents were Catholics while minority 29(7.6%) were Muslims. Regarding number of partners, the majority 351(91.4%) of the respondents were monogamous whereas minority 33(8.6%) were polygamy. It was found that majority 247(64.3%) of the respondents were housewives while the minority 51(13.3%) were civil servants. More than a half 261(68.0%) of the study participants would travel a distance >2km to the facility while (32.0%) would travel a distance between 1-2km to the facility.

Table 1: Socio-demographic characteristics of the respondents.

N=384

Variable		Frequency	Percentage
Age	<20 years	102	26.6
	20-35 years	218	56.8
	>35 years	64	16.7
Parity	Primipara	97	25.3
	Multipara	250	65.1
	Grand-multipara	37	9.6
Marital status	Single	9	2.3
	Married	363	94.5
	Divorced	12	3.1
Mother's education level	Primary	98	25.5
	Secondary	175	45.6
	Tertiary	111	28.9
Father's education level	Primary	12	3.1
	Secondary	137	35.7
	Tertiary	235	61.2
Religion	Anglican	78	20.3
	Catholic	164	42.7
	SDA	58	15.1
	Muslim	29	7.6
	Others	55	14.3
Number of partners	Monogamy	351	91.4
	Polygamy	33	8.6
Occupation	House wife	247	64.3
	Civil servant	51	13.3
	Business woman	86	22.4
Distance to the facility	1-2 KM	123	32.0
	> 2KM	261	68.0

Practice of post-natal care

According to the study findings in table 2 below, it was found that 350(91.15) of the respondents had utilized PNC services while only 34(8.9%) of the participants had not utilized the service.

Table 2: Practice of post-natal care

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N=384

Variable		Frequency	Percentage
Utilization of PNC	Yes	350	91.1
	No	34	8.9

Associated factors

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From the study, it was found that marital status, distance to the facility, delivery place, immunization, being given immunization card and being educated about early signs and symptoms of postnatal complications had a statistically significance association with utilization of PNC services as shown+ in table 3 below. It was found that married mothers $P \leq 0.001$; (aOR=0.80; 95%CI: 0.024-0.266) had reduced chances of utilizing PNC services compared to single mothers. Mothers within a distance of 1-2 km $P=0.021$; (aOR=2.302; 95% CI: 1.132-4.681) were more than twice like to utilize PNC services compared to those who were in a distance >2km. It was also found that mothers who delivered from the general hospital $P=0.005$; (aOR=4.615; 95%CI: 1.573-13.541) and health centres 2, 3 and 4 $P=0.014$; (aOR=2.892; 95%CI: 1.241-6.736) had increased chances of utilizing PNC services compared to those delivered from the villages or at home. Immunization was positively associated with utilization of PNC $P \leq 0.001$; (aOR=8.040; 95%CI: 3.201-20.193). Similarly, getting immunization card was positively associated with $P \leq 0.001$; (aOR=8.040; 95%CI: 3.201-20.193). Mothers who were educated about early signs and symptoms of postnatal complications $P=0.001$; (aOR=11.53; 95% CI: 2.746-48.45) were more than eleven times likely to utilize PNC compared to those who were not educated.

Table 3: Associated factors

Variable		HIV screening		aOR	95%CI		P- value
		Yes	No		Lower	Upper	
Age	<20 years	92	10	1.505	.576	3.934	.404
	20-35 years	203	15	2.215	.920	5.331	.076
	>35 years	55	9	1.000	.	.	.
Parity	Primipara	88	9	1.790	.368	8.702	.471
	Multipara	227	23	1.773	.400	7.853	.451
	Grandmultipara	35	2	1.000	.	.	.
Marital status	Single	8	1	.125	.012	1.333	.085
	Married	336	27	.080	.024	.266	<.001*
	Divorced	6	6	1.000	.	.	.
Mothers level of education	Primary	87	11	1.277	.518	3.151	.596
	Secondary	162	13	.810	.343	1.917	.632
	Tertiary	101	10	1.000	.	.	.
Fathers education level	Primary	11	1	1.244	.151	10.254	.839
	Secondary	120	17	1.939	.946	3.976	.071
	Tertiary	219	16	1.000	.	.	.
Religion	Anglican	71	7	1.709	.422	6.923	.453
	Catholic	149	15	1.745	.486	6.271	.394
	SDA	51	7	2.379	.583	9.711	.227
	Muslim	27	2	1.284	.202	8.154	.791
	Others	52	3	1.000	.	.	.
Number of sexual partners	Monogamy	321	30	.678	.223	2.057	.492
	Polygamy	29	4	1.000	.	.	.
Occupation	House wife	223	24	1.049	.453	2.432	.911
	Civil servant	49	2	.398	.081	1.952	.256
	Business woman	78	8	1.000	.	.	.
Distance to the facility	1-2 km	106	17	2.302	1.132	4.681	.021*
	>2 km	244	17	1.000	.	.	.
Place of delivery	General hospital	108	6	4.615	1.573	13.54	.005*

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	Health center 4,3 or 2 Village	203	18	2.892	1.241	6.736	.014*
Immunization	Yes	335	25	8.040	3.202	20.193	<.001*
	No	15	9	1.000	.	.	.
Given immunization card	Yes	335	25	8.040	3.202	20.193	<.001*
	No	15	9	1.000	.	.	Page 182
Being informed by hw about PNC	Yes	343	32	.327	.065	1.638	.174
	No	7	2	1.000	.	.	.
Given date due to come back	Yes	346	33	.382	.041	3.513	.395
	No	4	1	1.000	.	.	.
Health talk on how to care the baby	Yes	345	32	.232	.043	1.243	.088
	No	5	2	1.000	.	.	.
Educated about early signs of postnatal complications	Yes	346	30	11.53	2.746	48.45	.001*
	No	4	4	1.000	.	.	.
If you reported the complication of postnatal period to health authorities	Yes	346	32	.568	.122	2.650	.472
	No	4	2	1.000	.	.	.
If you received prompt attention	Yes	343	33	.673	.080	5.642	.715
	No	7	1	1.000	.	.	.
Any breastfeeding problem faced	Yes	30	0	1.63E-9	1.63E-9	1.63E-9	.
	No	320	34	1.000	.	.	.
Being informed about early neonatal complications signs and symptoms	Yes	334	33	1.581	.203	12.301	.662
	No	16	1	1.000	.	.	.
Health education about advantages of PNC	Yes	340	34	3.9E6	3.9E6	3.9E6	.
	No	10	0	1.000	.	.	.
Income	<0.5 M	169	19	.879	.400	1.930	.748
	0.5-1 M	95	4	.329	.101	1.072	.065
	>1 M	86	11	1.000	.	.	.
Being taught about components of mch	Yes	335	30	.336	.105	1.076	.066
	No	15	4	1.000	.	.	.
Staffs helping you to understand how to care for your selves	Yes	163	13	.710	.345	1.463	.353
	No	187	21	1.000	.	.	.
Staffs available to attend to you	Yes	257	25	1.005	.453	2.233	.990
	No	93	9	1.000	.	.	.

DISCUSSION

According to the study findings, it was found that 350(91.1%) of the respondents had utilized PNC services while only 34(8.9%) of the participants had not utilized the services. It was found that marital status, distance to the facility, delivery place, immunization, being given an immunization card, and being educated about early signs and symptoms of postnatal complications had a statistically significance association with utilization of PNC services. It was found that married mothers $P \leq 0.001$; (aOR=0.80; 95%CI: 0.024-0.266) had reduced chances of utilizing PNC services compared to single mothers. Mothers within a distance of 1-2 km $P=0.021$; (aOR=2.302; 95% CI: 1.132-4.681) were more than twice like to utilize PNC services compared to those who were in a distance of >2km. It was also found that mothers who delivered from the general hospital $P=0.005$; (aOR=4.615; 95%CI: 1.573-13.541) and health centers 2, 3 and 4 $P=0.014$; (aOR=2.892; 95%CI: 1.241-6.736) had increased chances of utilizing PNC services compared to those delivered from the villages or at home. Immunization was positively associated with utilization of PNC $P \leq 0.001$; (aOR=8.040; 95%CI: 3.201-20.193). Similarly, getting an immunization card was positively associated with $P \leq 0.001$; (aOR=8.040; 95%CI: 3.201-20.193). Mothers who were educated about early signs and

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symptoms of postnatal complications $P=0.001$; (aOR=11.53; 95% CI: 2.746-48.45) were more than eleven times more likely to utilize PNC compared to those who were not educated. These results are in line with Abdularheem *et al.* [18] who found that reasons for not participating in PNC utilization are travelling long distance to the health facility, lack of money for transportation to PNC utilization centers, and illness acquired after using some of the services of PNC services of which include; immunization of the newborn. Sagawa *et al.* [19] observed that lack of money for transportation are reasons for not utilizing PNC services and lack of money for transportation might relate to family income and proximity to the facility that other studies have shown to influence full utilization of PNC services.

CONCLUSION

According to the study findings, the utilization of PNC services at Jinja Regional Referral Hospital was high (91.1%) and the associated factors were marital status, distance to the facility, delivery place, immunization, being given immunization card, and being educated about early signs and symptoms of postnatal complications.

RECOMMENDATIONS

Based on the study results, we recommended that health facilities should be extended to mothers at affordable distances of 1-2 km or below; education about early signs and symptoms of PNC complications. Immunization and issuing of immunization cards are recommended since they had a positive impact on the utilization of PNC services.

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