ADEQUACY OF POSTNATAL CARE EDUCATION GIVEN TO MOTHERS PRE-DISCHARGE IN HEALTH FACILITIES IN NAIROBI COUNTY

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ABSTRACT

Appropriate care for mother and newborn during postnatal period is vital to preventing complications and deaths that occur immediately after child birth. This study investigated adequacy of postnatal education provided by health workers to postpartum mothers prior to discharge in various health facilities in Nairobi County. A descriptive cross-sectional study was used. A sample of 422 mothers was selected from 18 health facilities. Semi-structured questionnaires were used for data collection. The Test of Functional Health Literacy in Adults (TOFHLA) was used to determine adequacy of knowledge. Chi-square test was used to find associations at a significance level of 0.05. From the study findings, less than a half (49%) of mothers had adequate knowledge. Evaluation of knowledge on components of postnatal care education indicated mothers' knowledge on breast feeding components as highest with a mean of 74.8±28.7 and knowledge on baby care components as lowest with a mean 54±11.

Key words: adequacy, knowledge, postnatal, care, mothers

1.0 Introduction

The first hours, days and weeks after birth are a dangerous time for both the mother and the newborn (WHO, 2010). Appropriate care is therefore vital to prevent deaths and morbidities that occur during this delicate period. Among the strategies used, antenatal care and skilled attendance in child birth has been emphasized while little attention has been paid to postnatal care (PNC) yet it is at this critical time most deaths occur (WHO, 2010; SMDP, 2005; Warren, *et al.*, 2010; MOH, JHPIEGO, 2007). Researchers have noted that the information given to the mothers is not standardized and it has been described as brief and insufficient (Lomoro, *et al.*, 2002; Rudman & Waldenström, 2007). Studies also indicate that there is great diversity of information given across health facilities and among health care providers (Rayner, *et al.*, 2008). At the same time, it has been shown that the yardsticks for monitoring critical PNC components including PNC education remain problematic (Mwangi, *et al.*, 2008).

The level of postnatal knowledge among mothers is vital in ensuring continuity of care for the mother and baby both in hospital and after discharge. While education of mothers has been highlighted as the most important objective in PNC, there is no sufficient data in the Kenya demographic surveys to show the level of postnatal knowledge among postpartum mothers on discharge (Mwangi, *et al.*, 2008). According to KNBS (2010b), health facility delivery in Nairobi was highest among all other provinces at 89.4%. It also had the highest proportion of women receiving PNC within 4 hours at 58%. This coverage presented a good opportunity to establish whether health facility delivery translated to adequate delivery of PNC education to the mothers. There is need to establish that the education is given as per the guidelines and that the mothers are equipped and ready by the time of discharge to take up the role of providing PNC at home before the next health facility contact at 6 weeks.

2.0 Methods

The study employed a descriptive cross-sectional study design. It was undertaken in health facilities with maternity units within Nairobi County which recorded an average of a delivery per day. Only 29 facilities as per records from Nairobi City Council were eligible for sampling at the time of the study. Stratified sampling based on type of ownership (Public, FBO/NGO and Private) and workload was used to select 18 facilities (Table 2.1).

Table 2.1: Distribution of health facilities.

Facility level	Private	Public	NGO/FBO	Total
Level 3	5	2	2	**9**
Level 4	4	2	2	**8**
Level 6	-	1	-	**1**
Total	**9**	**5**	**4**	**18**

*NGO- Non-Governmental Organisation, FBO- Faith Based Organisation

The primary study population was mothers delivering in maternity units within Nairobi County health facilities. Only mothers with full term healthy neonates (dyad) were included to ensure uniformity of information. A sample of 422 mothers based on Fishers, *et al.* (1991) formula was used in the study. The proportion of the sample size per facility was determined and allocated based on proportional delivery yields in the facility. At the facility level, systematic sampling was used to select the mothers based on k^{th} mother where k was determined by the total number of deliveries in a month divided by the sample size for the

facility. In the event that the k^{th} mother did not meet the inclusion criteria, the next mother meeting the inclusion criteria was selected. Interviewer administered semi-structured questionnaires were used to collect data from the mothers.

Statistical analysis was done with SPSS for windows version 20.0. Descriptive statistics entailed use of percentages, means and standard deviations. *Test of Functional Health Literacy in Adults (TOFHLA)* was utilised to measure adequacy of knowledge according to Parker (1995). Though TOFHLA has three classifications -inadequate, intermediary and adequate knowledge- the first two were collapsed to give a cut-off of 74% for inadequacy. Adequacy of knowledge among the mothers was measured by aggregating individual scores then calculating the average score. The cut off was 0-74 inadequate and 75-100 adequate based on TOFHLA scoring. Chi-square test was used to find associations. Level of significance was placed at 0.05 for all the tests conducted.

Approval was sought from the Ethical Review Committee of University of Nairobi and KNH and approval no P192/04/2012 granted. Approval was sought from the Ministry of Public Health and Sanitation through the Department of Reproductive Health. A written letter of approval to carry out the study was obtained from the hospital administrators of each of the sampled health. A written consent was obtained from the participants. The consent form for the mothers was also provided in *Kiswahili* for those who could not understand English. Respect, care, anonymity and confidentiality were maintained throughout the data collection period. At the end of the study, data were stored according to the regulations of the School of Public Health University of Nairobi (SPHUN).

3.0 Results

3.1 Respondents distribution across facility types and levels

As shown in Table 3.1, over a half (58%) of mothers studied were from public health facilities, close to a third (31%) from NGO/FBO comprised and 11% from private facilities. Distribution across levels of facilities comprised less than a half (44%) from level 4 facilities, slightly over a third (35%) from level 3 and 21% from level 6 facilities.

Table 3.1: Distribution of mothers across type and levels

Facility level	Facility type			Total
	Private	Public	NGO/FBO	
Level 3	25 (52.1%)	15 (6.2%)	108 (82.4%)	**148 (35.1%)**
Level 4	23 (47.9%)	139 (57.2%)	23 (17.6%)	**185 (43.8%)**
Level 6	-	89 (36.6%)	-	**89 (21.1%)**
Total	**48 (11%)**	**243 (58%)**	**131 (31%)**	**422 (100%)**

*NGO- Non-Governmental Organisation, FBO- Faith Based Organisation

3.2 Socio-demographic characteristics of the postpartum mothers

The social demographic distribution of the respondents is presented in Table 3.2. The mean age in years was 28.01± 5.2. Disaggregated by age the results showed that the 25-29 age set had the largest proportion of respondents at 33.6% and 40-44 age group had the lowest at 2.4%. Over three quarters (82.9%) of mothers were married. Less than a half (42.7%) of the respondents had secondary education. Similarly, less than a half (41.5%) of the respondents were not in formal employment.

Table 3.2: Socio-demographic characteristics of respondents (n=422)

Characteristic	Frequency	Percent
Age of mothers		
15-19 years	14	3.3
20-24 years	108	25.6
25-29 years	142	33.6
30-34 years	112	26.5
35-39 years	36	8.5
40-44 years	10	2.4
Marital status		
Single	64	15.2
Married	349	82.9
Separated	6	1.4
Divorced	3	0.5
Educational level		
None	3	0.7
Primary	105	24.9
Secondary	180	42.7
College: certificate/diploma	105	24.9
Bachelor's degree	25	5.9
Post graduate	4	0.9
Occupation		
Employed (formal)	80	19
Self-employed	134	31.8
Casual job	27	6.4
Unemployed	175	41.5
Others	6	1.4
Monthly household income		
KES less than 5 000	85	20.1
KES 5 001-10 000	70	16.6
KES 10 001-15 000	76	18
KES 15 001-20 000	66	15.6
KES 20 001 and above	64	15.2
Not certain	61	14.5

*n- number, KES- Kenya shillings

3.3 PNC knowledge of postpartum mothers

To determine the knowledge of the postpartum mothers on discharge from maternity units as imparted by the maternity health workers, the components of PNC education were evaluated. They were grouped into breast feeding components, danger signs for the mother, self-care components for the mother, baby care components and dangers signs for the baby.

From the study findings, evaluation of the aggregated scores for the components based on the TOFHLA scale indicated that slightly over a half (51%) of the respondents had inadequate knowledge of all the

components evaluated. Almost a half (49%) achieved 75 and above of all the required components (Figure 3.1). Mothers' knowledge on breast feeding components was found highest with a mean of 74.8±28.7 and knowledge on baby care components was lowest with a mean 54±11 (Figure 3.2).

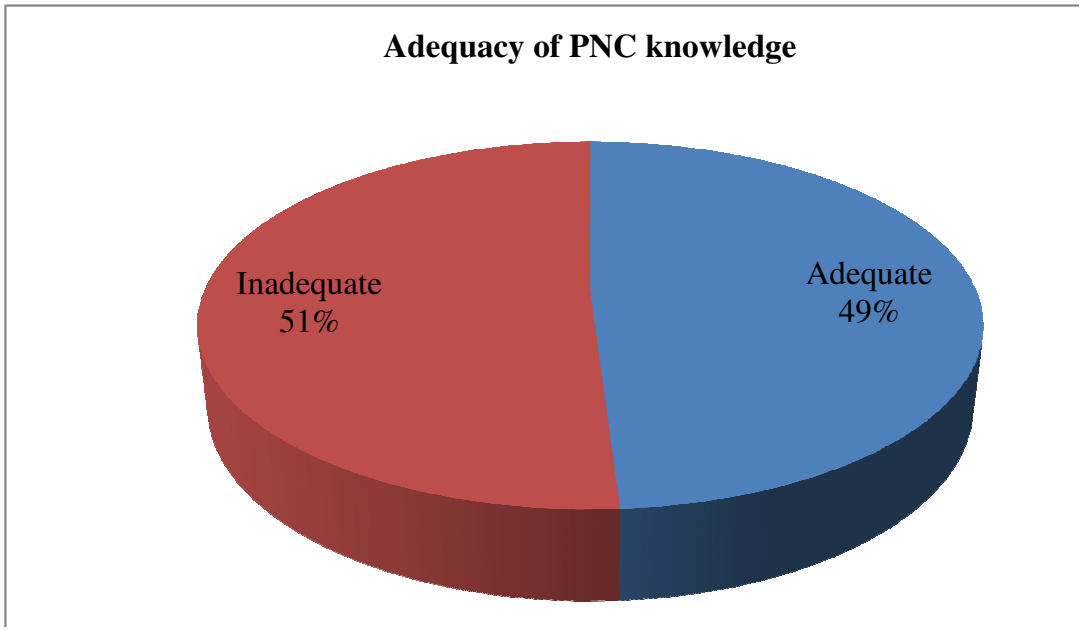

Figure 3.1: Overall adequacy of PNC knowledge

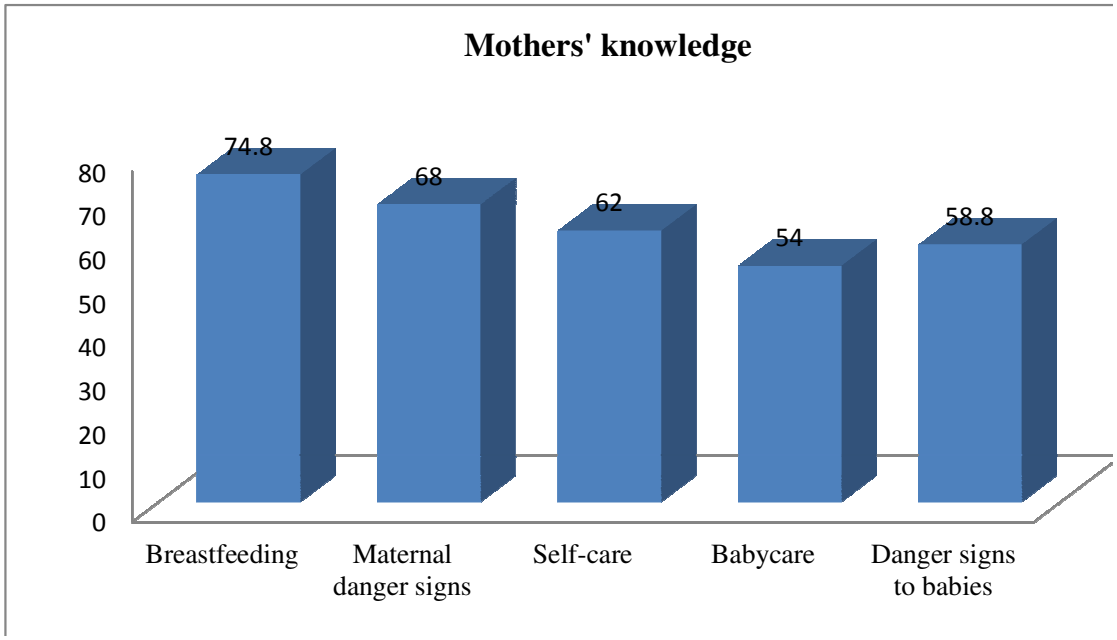

Figure 3.2: Mothers' knowledge on basic components of PNC

3.3.1 Knowledge on basic components of breast feeding

Findings showed that over two-thirds (70%) of the respondents had adequate knowledge on breastfeeding components. Table 3.3 shows the specific breastfeeding components on breastfeeding where advice on importance of exclusive breastfeeding for the first 6 months as well as on lactation amenorrhoea method (LAM) were significantly ($p<0.05$) associated with mothers' knowledge.

Table 3.3: Knowledge on specific breastfeeding components (n=413)

Component	Frequency	Percent	P-value
Assisted by health worker to initiate breastfeeding	91	59	0.068
Shown how to latch the baby	113	73	0.724
Advised on exclusive breastfeeding	129	90	0.001
Advised on LAM with exclusive breastfeeding	70	45	0.004

*LAM- LACTATION AMENORRHOEA METHOD

3.3.2 Knowledge on danger signs to mothers

Concerning danger signs to the mother, less than a half (45%) of the respondents had adequate knowledge that is above 75% of all the components. The possible danger signs for self, vaginal bleeding/low abdominal pain, referral due to possible danger signs and breast problems were found significant ($p<0.05$) in relation to mothers' knowledge (Table 3.4).

Table 3.4: Knowledge on danger signs to mothers (n=422)

Component	Frequency	Percent	P-value
Possible danger signs for self	239	57	0.000
Breast feeding problem	303	72	0.002
Severe headache	269	64	0.83
Fever and feeling (puerperal sepsis)	338	88	0.95
Heavy vaginal bleeding (PPH)	263	86	0.005
Urinary/faecal inconsistence (fistula)	143	34	0.103
Extreme tiredness (anaemia)	256	61	0.021
Severe sadness/hopelessness (puerperal psychosis)	118	28	0.082
Referral if danger sign noted	332	79	0.000

3.3.3 Knowledge on specific components of self-care

regarding self-care, over a half (55%) of the respondents had adequate knowledge. The specific components that were found to be significantly ($p<0.05$) associated with mothers' knowledge are: personal hygiene, continuation of previous therapy, return to sexual activity, family planning intentions and frequent emptying of bladder (Table 3.5).

Table 3.5: Mothers' knowledge on specific self-care components (n=413)

Component	Frequency	Percent	P-value
Continuation of previous therapy	159	38	0.000
Return to sexual activity	198	47	0.000
Family planning intentions	260	62	0.000
Maternal nutrition	350	83	0.024
Personal hygiene especially cleaning puerperium	390	93	0.005
Adequate rest and sleep	308	73	0.025
Frequent emptying of bladder	260	62	0.009
Pelvic floor exercises	184	44	0.085

3.3.4 Knowledge on specific baby-care components

Acquisition of information that is pertinent to baby-care was evaluated. Out of the 422 respondents, less than a third (25%) mothers had adequate knowledge. As shown in Table 3.6, delay of first bath, benefits of exclusive breastfeeding, subsequent immunizations, importance of growth monitoring, ensuring baby sleeps under insecticide treated net, how to bath the baby cord care were found to be significantly ($p<0.05$) related with mothers' knowledge.

Table 3.6: Mothers' knowledge on specific baby-care components (n=422)

Component	Frequency	Percent	P-value
Delay of first bath for 24 hours	134	33	0.000
Shown how to do cord care	262	62	0.000
Benefits of exclusive breastfeeding to the baby	401	96	0.042
Need to maintain warmth	363	86	0.98
Shown how to bath the baby and maintain hygiene	266	63	0.000
Subsequent immunizations	384	91	0.017
Importance of growth monitoring	316	75	0.000
Baby sleeps under insecticide treated net	270	64	0.000

3.3.5 Knowledge on danger signs for the baby

Evaluation of mother's knowledge on danger signs for the baby showed that a low proportion (20%) of mothers had adequate knowledge. Detection of infection and other danger signs, wet cord with pus or blood, swollen eyes, jaundice, lethargic or floppy, first bowel and bladder function were found to be significant ($p<0.05$) in relation to mothers' knowledge (Table 3.7).

Table 3.7: Mothers' knowledge of danger signs to babies (n=422)

Component	Frequency	Percent	P-value
Detection of infection and other danger signs	348	83	0.000
Baby refuse to feed	362	86	0.091
Poor body temperature (hot/cold)	358	85	0.23
Difficulty breathing	299	71	0.38
Wet cord with pus or blood	324	77	0.000
Swollen eyes	143	34	0.013
Jaundice	304	72	0.000
Lethargic or floppy	143	34	0.000
Convulsion	84	20	0.501
Diarrhoea	113	27	0.254
First bowel and bladder function	211	50	0.000

4.0 Discussion

In order for the mothers to be competent and confident in their parenting role, they must acquire new skills (Beck, 2010) and as Bowman (2005) puts it, major learning needs for the mother arise given that she plays a critical role of safeguarding her health and that of her newborn at home. Scholars have argued that through sharing of knowledge with women and mothers in health education sessions after delivery and during PNC

visits, health care providers can influence health-seeking behavior during postpartum period (Cheng, *et al.*, 2006). This underscores the need to ensure pre-discharge health education is optimal in all the facilities.
Given the many learning needs of mothers after birth, this study sought to assess the adequacy of knowledge among the mothers upon discharge. From the study findings, less than a half of the mothers had adequate knowledge. This indicates a gap in hospital-based PNC given to mothers. Some of the mothers felt that the health workers did not address all their concerns. This finding shows that the PNC education given is not satisfactory and is in consistent with a study conducted in Scotland which found that PNC education is often inconsistent and diffuse (Teijlingen, *et al.*, 2002). Further, this is in concurrence with a study done in China where mothers said that the information given to them was brief and insufficient (Lomoro, *et al.*, 2002).

5.0 Conclusion

From the study, it was noted that specific components deemed to have more impact on maternal and neonatal health outcomes are given greater emphasis. Thus mothers had adequate knowledge about exclusive breast feeding, danger signs indicative of puerperal sepsis, Post-Partum Haemorrage (PPH), neonatal sepsis, baby refusing to feed, poor body temperature, septic cord, and associated referral. Others include need to maintain baby warmth, growth monitoring and immunizations, benefits of exclusive breastfeeding to baby and puerperal hygiene. Mothers had inadequate knowledge on self-care, baby-care and other components that could lead to adverse morbidity such as danger signs indicative of postpartum depression, fistula in mothers and diarrhea, difficulty in breathing and jaundice in neonates. This affected the overall adequacy score negatively with slightly less than half of the mothers having overall adequate knowledge upon discharge.

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