MATERNAL SATISFACTION WITH CARE PROVIDED TO NEONATES ADMITTED IN NEW BORN UNIT AT KENYATTA NATIONAL HOSPITAL

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DECLARATION

I hereby declare that this research dissertation is my original work and that it has not been produced or presented at any university, college, or any other learning institution for the award of a degree or for examination purposes.

Signature…… Date…….

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LIST OF ABBREVIATIONS AND ACRONYMNS

K.N.H – Kenyatta National Hospital

NBU – New Born Unit

N.I.C.U – Neonatal Intensive Care Unit

SPSS – Statistical Package for Social Sciences

U.O.N – University of Nairobi

EMPATHIC – Empowerment of Parents in The Intensive care

DEFINITION OF OPERATIONAL TERMS

DETERMINANTS: institutional structures and processes, maternal and neonatal attributes that contribute to mothers' satisfaction regarding the care of their neonates

MATERNAL SATISFACTION: the degree to which a mother's expectation of ideal care is harmonized with the actual care she receives in a health facility

QUALITY OF CARE: the extent to which healthcare services provided to individuals and patient populations improve desired health outcomes.

NEW BORN UNIT: is a hospital facility or unit staffed and equipped to provide care to babies who need advanced support such as parenteral nutrition and continuous positive airway pressure

NEONATAL INTENSIVE CARE UNIT: is a unit specializing in the care of infants with a variety of conditions that require intensive care support

MOTHER: a female parent who gave birth to the neonate admitted in new born unit

NEONATE: a new born aged 0- 28 days

STRUCTURES: attributes of an organization delivering care and conditions under which care is provided

PROCESSES: professional activities correlated with provision of care

ABSTRACT

Patient satisfaction is a vital indicator of quality of care. For neonates, this depends on the viewpoint of the mother. Studies have shown that mothers are more satisfied with neonatal care when they participate in care and receive timely and continued communication. Mothers' sociodemographic factors, neonatal characteristics and institutional structures and processes influence a mothers' satisfaction regarding neonatal care.

To establish maternal satisfaction with care provided to neonates admitted in new born unit at Kenyatta National Hospital.

A descriptive cross- sectional study was carried out in new born unit at Kenyatta National Hospital, Kenya. Data was collected using an interviewer administered questionnaire and key informants' guide. Systematic sampling method was used. Quantitative data was analysed by statistical package for social sciences (SPSS) version 23.0, while qualitative data was coded through content analysis manually according to the themes.

108 mothers participated in the study. The mean age of the mothers interviewed was 25.58 years, with 52 (48.1%) having secondary education and majority (56.5%) being unemployed. 56 (51.9%) of the neonates in the study were male and the leading cause of admission to NBU was prematurity (38.9%). Neonatal characteristics which demonstrated a statistical significance to maternal satisfaction were; gestation in weeks at birth ($p=0.021$) and mode of delivery ($p=0.042$). There was a significant association between information and maternal satisfaction with care; being informed right away when the child's condition worsens($p=0.001$), questions being clearly answered ($p<0.01$).

Mode of delivery and gestation in weeks at birth greatly influences maternal satisfaction with care provided to their neonates. Mothers receiving daily, timely and honest information concerning their infants' diagnosis, treatment, investigations and expected health outcome increases maternal satisfaction with care provided.

CHAPTER ONE: INTRODUCTION

1.1 Background information

Patient satisfaction has been defined as a harmonization between a patient's expectation of care and his/her views of the actual care they receive (iftikhar Ahamad, 2010). High levels of patient satisfaction have been linked to adherence with healthcare regimens and greater health outcomes(Wagner and Bear, 2009). Satisfaction levels are also a predictor of subsequent health related behavior (Schoenfelder, Klewer and Kugler, 2011).

According to (Conner and Nelson, 1999) parents with neonates in neonatal intensive care deemed the following elements of care important to them: assurance, caring, communication, consistent information, education, environment, follow up care, pain management, participation, proximity and support.

High levels of satisfaction among mothers in neonatal intensive care unit have been reported when their communication needs are addressed by healthcare providers (Weiss, Goldlust and Vaucher, 2010). This involves being emphatic, providing timely information and staff being available when mothers wanted to talk to them (De Bernardo *et al.*, 2017) Mothers' satisfaction with neonatal intensive care unit services have also increased after allowing them to actively take part in the care process, have contact with their neonates and being present in the unit (Bastani, 2015).

Various factors have been identified to contribute to mothers' satisfaction, among them; Maternal characteristics such as; their age, level of education (Schoenfelder, Klewer and Kugler, 2011) family size, income, occupational level (Ware, Davies-Avery and Stewart, 1977) residence (Tsironi *et al.*, 2012) and race (Martin *et al.*, 2016) have been known to affect satisfaction levels.

Neonatal factors; Severity of neonatal illness and their length of stay in hospital have also been found to affect the mother's satisfaction levels of neonatal care (Tsironi *et al.,* 2012).

Institutional structures and processes also play role in influencing satisfaction. According to (Raiskila *et al.,* 2017) the design of the neonatal intensive care unit has an impact on mothers' satisfaction of neonatal care. Single room were preferred over open bay design because they promoted privacy. Neonatal intensive care units close to the maternity wing in Europe, were noted to rise the satisfaction level of mothers with care provided because it increased their presence in neonatal intensive care units and had better clinical outcome for the neonates. (Schoenfelder, Klewer and Kugler, 2011) revealed that kindness of nurses and doctors was rated highest as a determinant of satisfaction, in addition to facilities like accommodation in Germany. While factors such as clear information about treatment had the least impact on mothers' satisfaction concerning care.

In a qualitative study carried out in England, it was determined that generally parents were satisfied with care in neonatal unit. However, 3 determinants of satisfaction were identified; staff competence and efficiency, parents' involvement and interpersonal relationships with staff (Russell *et al.*, 2014)

In the United State of America, a study revealed that mothers are satisfied with administering interventions for their neonates regardless of the intervention being performed and appreciated a nurse's guidance to carry out the intervention (Levy, 2015)

A study carried out in Tanzania, showed mothers were not satisfied with neonatal care in Kilimanjaro region because of harsh language used by healthcare providers and time spend by doctors in reviewing their neonates (Mbwele *et al.*, 2013)

In Kenya no study has been conducted to determine the maternal satisfaction regarding care of their neonates in New- born Unit, hence results of this study will be useful in enhancing quality of care provided.

1.2 Problem statement

Most recently there was an outcry regarding the placement of new-born unit away from postnatal wards and mothers' safety when going to breastfeed their babies in newborn unit (Omboki, 2018).Mothers' dissatisfaction with care provided to their neonates in Neonatal intensive care unit has resulted in failure of treatment plans, increased neonatal readmissions, increased anxiety among mothers and lack of confidence in health systems (Salehi *et al.*, 2014). Neonatal readmissions exacts a significant burden on health, education, social services, families and caregivers (Johnston *et al.*, 2014). Increased anxiety among mothers negatively affects the mother-baby bonding which in turn affects the cognitive development of a child and the mothers' ability to take care of the child (Aliabadi *et al.*, 2014). Quality management of neonates in New-born unit is therefore important in-order to reduce neonatal morbidity and mortality(Lake *et al.*, 2016)

1.3 Justification

Patient satisfaction as been shown to be a key indicator of quality of care offered by a health facility, and good nursing care has an important influence on patient satisfaction (Wagner and Bear, 2009). One way of measuring health outcomes is through patient satisfaction. And for neonates this satisfaction can be most satisfactorily expressed by the mother (Bergman, 1995).

If mothers' satisfaction is lacking, it leads to inability to use the health services again and the mothers won't invite others to utilize newborn unit services. It also causes the mothers' to have feelings of inadequacy, unhappy with the staff and this consequently decreases efficiency of the health system (Salehi *et al.*, 2014). In Kenya, no study has been carried out to determine satisfaction with care provided to neonates. The findings from this study may be useful in

restructuring the environment if need be and improving care processes, all with the aim of reducing neonatal mortality and morbidity. Such would boost the confidence of the mothers in healthcare systems.

1.4 Research questions

1. What maternal socio-demographic characteristics determine satisfaction with care provided to neonates admitted in new-born unit at Kenyatta National Hospital?
2. What neonatal birth and health factors determine satisfaction with care provided to neonates admitted in new-born unit at Kenyatta National Hospital?
3. What institutional physical structures determine satisfaction with care provided to neonates admitted in new-born unit at Kenyatta National Hospital?
4. What institutional care processes determine satisfaction with care provided to neonates admitted in new-born unit at Kenyatta National Hospital?

1.5 Broad objective

To establish maternal satisfaction with care provided to neonates admitted in new-born unit at Kenyatta National Hospital.

1.6 Specific objectives

1. To establish maternal socio-demographic characteristics that influence satisfaction with care provided to neonates admitted in new-born unit at Kenyatta National Hospital.
2. To assess neonatal birth and health factors that influence satisfaction with care provided to neonates admitted in new-born unit at Kenyatta National Hospital.
3. To examine how institutional physical structures, influence satisfaction with care provided to neonates admitted in new-born unit at Kenyatta National Hospital.
4. To establish how institutional care processes, influence satisfaction with care provided to neonates admitted in new-born unit at Kenyatta National Hospital.

1.7 Study hypotheses

1. Maternal socio-demographic characteristics do not determine satisfaction with care provided to neonates admitted in new-born unit at Kenyatta National Hospital.
2. Institutional physical structures and care processes do not determine satisfaction with care provided to neonates admitted in new-born unit at Kenyatta National Hospital.

1.8 Study benefits

The study results will assist in providing a better understanding of the role of institutional physical structures and institutional care processes in influencing maternal satisfaction with care provided to neonates admitted in new-born unit. It will also enable the management to come up with amenities and service conditions that will attract more mothers to utilize the new born unit services and boost their confidence in healthcare systems. Policy makers may also use this information in decision making concerning the structures of newborn units and postnatal wards.

CHAPTER TWO: LITERATURE REVIEW

2.1 Maternal characteristics determining maternal satisfaction of care of neonates

Mothers' satisfaction with neonatal care in neonatal intensive care unit is affected by maternal age. Younger mothers are more satisfied than older mothers because they have less expectations and they demand less from the healthcare system due to unfamiliarity with the care given(Quintana *et al.*, 2006; Tsironi *et al.*, 2012).

Basic education, no formal education or lower educational levels among mothers has been positively associated with higher satisfaction levels (Quintana *et al.*, 2006; Tsironi *et al.*, 2012; Yilmaz *et al.*, 2016).

Employment status of a mother has also been shown to influence satisfaction levels of a mother. Employed mothers achieved less satisfaction in comparison to unemployed mothers (Yilmaz *et al.*, 2016). Mothers with higher income are less satisfied compared to mothers with lower income (Afzal *et al.*, 2014).

Mothers satisfaction with emotional support offered and information given in neonatal care unit was greatly affected by the health insurance of the mother (Yilmaz *et al.*, 2016).

When it comes to race, black mothers were dissatisfied with neonatal care in neonatal intensive care unit compared to white mothers. Reasons for dissatisfaction in black mothers were lack of compassionate and respectful communication while for the white mothers it was due to inconsistency in nursing care and lack of information about their neonate(Martin *et al.*, 2016).

According to(Williams *et al.*, 2011) mothers who discussed their religious and spiritual concerns with either their religious leaders back at home, hospital chaplain, other mothers in the unit or healthcare provider during their inpatient stay had higher levels of satisfaction with care given.

According to (Ibraheem, Ibraheem and Bekibele, 2013) mothers who stay nearby a health facility are less satisfied compared to their colleagues who stay far away. This findings are closely correlated to (Tsironi *et al.,* 2012) who revealed; mothers residing in rural areas are more satisfied with care compared to those living in urban centers.

2.2 Neonatal factors determining maternal satisfaction of care of neonates

Neonate's length of stay in neonatal intensive care unit can positively or negatively influence mothers' satisfaction with neonatal care. The longer the length of stay, the lower the level of satisfaction (Tokunaga and Imanaka, 2002; Quintana *et al.,* 2006; Tsironi *et al.,* 2012). Lower levels of satisfaction for mothers with longer length of stay is attributed to comfort, visiting and cleanliness of facilities (Quintana *et al.,* 2006).

According to(McCormick *et al.,* 2008; Rahmqvist and Bara, 2010) mothers who perceived better health status of their neonates were more satisfied than those who thought their babies were severely ill.

When it comes to safety in neonatal care intensive unit, mothers were satisfied and believed in the competency of health care providers to provide safety for their neonates. They had low concerns about physical, developmental and emotional safety (Lyndon *et al.,* 2014).

Mothers who were present when neonatal resuscitation was done to their babies were more satisfied with care than those who were absent because they were able to keep contact with their babies and were aware of what was happening (Yoxall *et al.,* 2015).

Neonates on supplemental oxygen lead to low maternal satisfaction because mothers feared of the negative effects of oxygen and viewed this mode of therapy as a hindrance to bonding with their babies(Cervantes, Feeley and Lariviere, 2011).

2.3 Institutional structures determining maternal satisfaction of care of neonates

The design of a neonatal intensive care unit has been shown to affect mothers' satisfaction (Raiskila *et al.*, 2017). Neonatal unit close to the maternity wing and single family room were preferred over open bay neonatal intensive care units design, mothers' were more satisfied with neonatal care because single rooms increased their presence in neonatal intensive care unit, resulted in better clinical outcomes of the neonates and promoted privacy for caregiving (Bigsby, Sullivan and James, 2012; Raiskila *et al.*, 2017).

Lack of appropriate facilities in the new born unit to accommodate mothers due to limited space also play a role in mothers' satisfaction levels(Dykes *et al.*, 2016). Uncomfortable chairs for breastfeeding, poor room ventilation, lack of entertainment in some rooms, low food quality and mothers' washroom being far away has led to dissatisfaction in mothers with neonates in neonatal intensive care unit (Salehi *et al.*, 2014).

Rules and regulations in neonatal intensive care unit also affected the mothers' satisfaction levels. Most mothers' are dissatisfied with the inability of her relatives to visit the neonatal unit (Salehi *et al.*, 2014).

(Rayner *et al.*, 2010) postnatal mothers preferred private hospital over public hospitals, and they registered low satisfaction levels because of poor postnatal physical environment, insufficient staff to attend to them, inflexible length of stay, high bed capacity and nurses placing priority on only specific areas of care.

2.4 Institutional processes determining maternal satisfaction of care of neonates

Information and communication are among the key needs of mothers with neonates in neonatal intensive care unit (Nicholas and Beckman, 2006). Mothers' satisfaction with neonatal outcome has been associated with empathy received from nurses and doctors in neonatal intensive care unit, frequent interaction and familiarity(Pick *et al.*, 2014). Staff being available when parents wanted to talk, showing empathy during communication and healthcare providers

giving timely information and in an appropriate manner has led to high levels of satisfaction (De Bernardo *et al.*, 2017)

On the other hand, receiving inadequate information about prognosis of the disease, and doctors providing scanty and information that is not understood by mothers leads to high levels of dissatisfaction. Inaccessibility of doctors in neonatal unit by mothers also contribute to dissatisfaction (Fumis, Nishimoto and Deheinzelin, 2018).

Health education provided by nurses to the mothers while in neonatal intensive care unit resulted in increased mothers' satisfaction. This information helped first time mothers with their lactation, reduced their anxiety and improved their confidence in participation of care (Salehi *et al.*, 2014).

Delays in initiating medical care and waiting at the reception without getting information causes mothers' dissatisfaction with care while allowing mothers to participate in medical decision making increases satisfaction (Terra de Souza *et al.*, 2000; Rahmqvist and Bara, 2010).

2.5 Media, individual perception and psychological factors determining maternal satisfaction of care of neonates

Media has been shown to influence mothers' satisfaction with a healthy facility either positively or negatively depending on the coverage. Individual general perception about issues also affects satisfaction, whereby people generally unhappy will express lower satisfaction levels compared to those who are happy (Bleich, 2009).

According to (Schoenfelder, Klewer and Kugler, 2011) psychosocial determinants also play role in mothers' satisfaction, whereby mothers report higher satisfaction levels to avoid consequences in case their feedback is unfavorable.

2.6 Theoretical framework

The Donabedian model (1966) was used for this study. The model examines health services and evaluates quality of health care.

Information about quality of care can be drawn from 3 categories: structure, processes and outcomes.

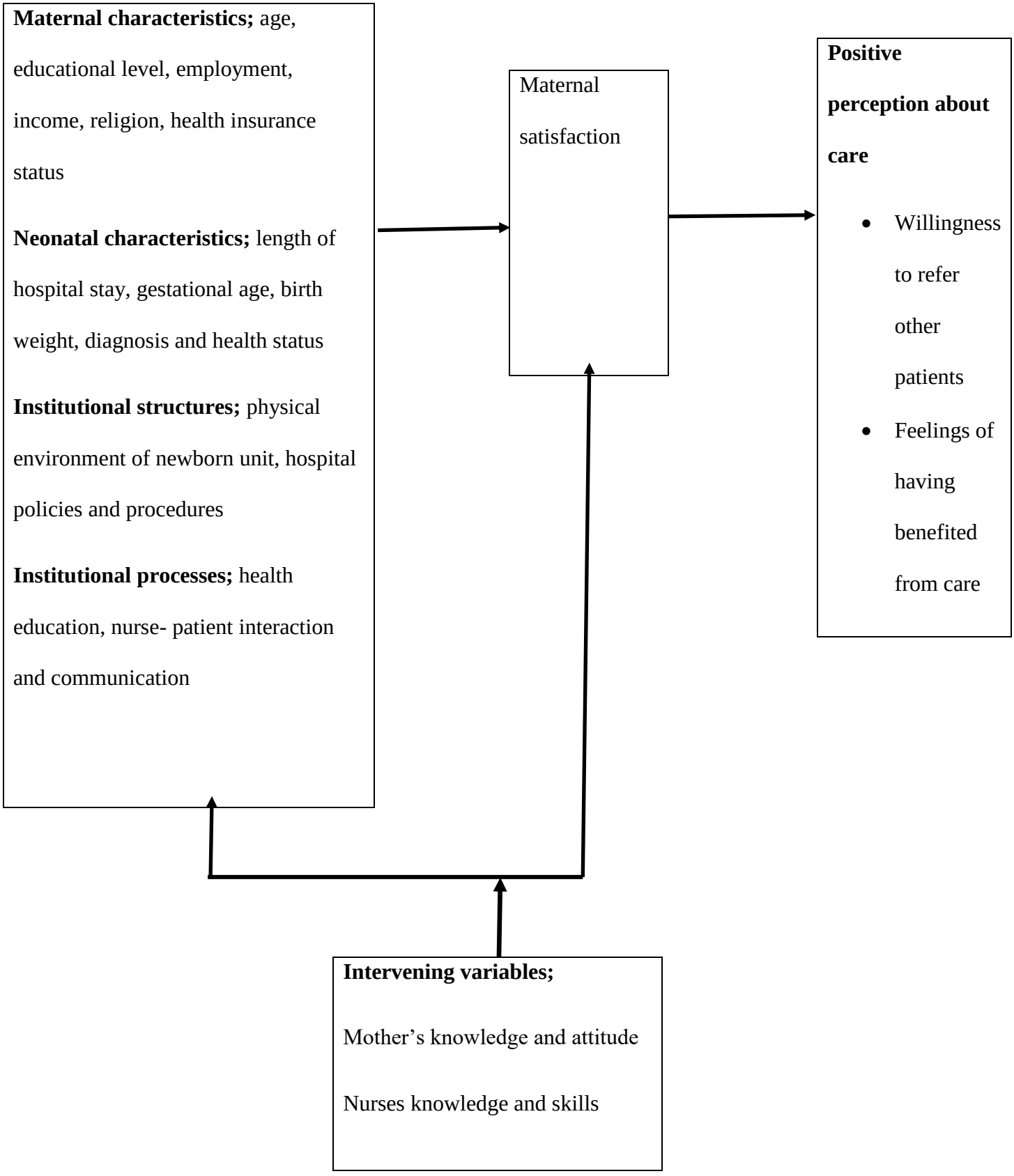
Structure includes all the factors that affect the context in which care is delivered. This includes the physical facility, equipment and human resources as well as organizational characteristics such as staff training and payment methods. These factors control how providers and patients in a healthcare system act. In this study; structure will constitute of the environment in new born unit, nurses working in the unit, equipment and supplies in the unit, neonatal factors and maternal socio demographic factors.

Process is the sum of all actions that make up healthcare. Denotes the transactions between patients and providers throughout the delivery of healthcare. It involves technical processes, how care is delivered or interpersonal processes. In this study being information, mothers' participation in care and professional attitude.

Outcome contains all the effects of healthcare on patients. includes changes to health status, behavior or knowledge as well as patient satisfaction and health related quality of life.

2.7 Conceptual framework

INDEPENDENT VARIABLES **DEPENDENT VARIABLE** **OUTCOME**



CHAPTER THREE: METHODS AND MATERIALS

3.1 Study design

This was a descriptive cross- sectional study aimed at establishing determinants of maternal satisfaction with care provided to neonates admitted in New Born Unit at Kenyatta National Hospital.

3.2 Study area

The study was conducted at K.N.H New Born Unit. Kenyatta National Hospital is a public tertiary referral hospital & also a teaching hospital. It has a bed capacity of 1800. NBU has a capacity of 50 beds. Its divided into 7 key areas; the admission nursery which handles all new admissions for stabilization before they are redistributed to other nurseries. Isolation nursery for neonates who require isolation, nursery B handles preterm neonates with a birth weight below 1600grammes, nursery C which handles neonates with a birth weight above 1600grammes & sick term neonates. Nursery D which handles stable neonates with a birth weight above 1750grammes & stable term neonates, NICU handles neonates who require ventilatory support and lastly the Kangaroo room for stable preterm neonates whose mothers are keen on kangaroo mother care.

The following neonates are admitted in NBU; all preterm neonates with a birth weight of less than 2000grammes. Neonates with a birth weight of more than 2000grammes if they have birth asphyxia, jaundice, respiratory distress, neonatal sepsis and congenital anomalies. Neonates of mothers with diabetes mellitus & rhesus negative blood group. Mother's condition for example if the mother is admitted to intensive care for any reason. Low birth weight neonates are discharged once they attain a weight of 1800grammes or when stable for the other diagnoses.

3.3 Study population

Mothers of neonates admitted in New born unit and nurses working in new born unit at Kenyatta national hospital at the time of the study.

3.3.1 Inclusion criteria for mothers

i. Consenting mothers of neonates who have been admitted in new-born unit for at least 72 hours.

3.3.2 Inclusion criteria for nurses

i. Consenting qualified nurses who have worked in new- born unit for over 3 years.

3.3.3 Exclusion criteria for nurses and mothers

i. Non- consenting mothers and mothers of neonates admitted in new-born unit for less than 72 hours

ii. Non- consenting nurses and nurses who have worked in new-born unit for less than 3 years.

3.4 Sample size determination and sampling procedure

3.4.1 Sample size determination for the mothers

The sample size was determined using the Cochran formula (Cochran, 1977).

$$N = Z^2PQ/d^2$$

Where; N = sample size when population is less than 10,000

Z^2= normal deviate at the desired confidence interval i.e. 1.96

P = proportion of population with desired characteristics being determined. In this case, the particular desired characteristic is satisfaction. Since there is no literature available on the estimate of proportion of mothers with positive or negative satisfaction levels, p will be taken to be 50%

Q = proportion of population without desired characteristic

d^2= degree of precision/ accuracy 5% i.e 0.05 is commonly used

therefore $N=1.96^2(0.5)(0.5)/ 0.05^2$

=384.16 hence N=384

Since the population is less than 10,000 the required sample size will be calculated using the adjusted Cochran formula.

nf = n/ 1+ (n/N)

where; nf = final derived sample size

n= sample size for population less than 10,000

N= estimate of the population size (number of neonates admitted in NBU per month is approximately 150)

Therefore; nf= 384/1+(384/150)

=107.86

108

3.4.2 Sampling technique

Simple random sampling method was used to select the study sample for the mothers. A list of mothers meeting the inclusion criteria was obtained from the admission book at the admission nursery. The first study participant was selected, whereby mothers picked a folded piece of paper from a basket with numbers on them. The mother who picked number 01 came first and thereafter every alternate mother to a neonate admitted in NBU for more than 72 hours was included in the study.

Focused group discussions comprising of nurses working in new born unit was conducted. The unit has an average of 40 nurses, the group was made up of 6 nurses. (Cormack, 2000) suggests that qualitative study should utilize a small sample size because of in depth nature of the study and analysis of data required.

Simple random sampling method was used to get the sample for the FGDs whereby folded papers labelled yes/no were picked by potential FGD participants. Those that pick 'yes' were included in the FGD (appendix 2).

3.5 Data collection

3.5.1 Data collection tool

For mothers' data was collected using a semi- structured questionnaire (appendix 1). The questionnaire was interviewer -administered. The questionnaire has 2 sections;

i. **Section 1: socio demographic data**

   It included socio- demographic characteristics of the mothers whose neonates are admitted in NBU and neonatal characteristics

ii. **Section 2: the 65 item 'modified Empowerment of Parents in the The Intensive care questionnaire (EMPATHIC N) for assessing satisfaction of mothers' regarding the care of their neonates**

   The original version of this questionnaire was developed by Latour et al (2004) to measure the delivered care as perceived by parents and consisted of 57 items. internal consistency (cronbech's alpha of the domains ranged between 0.87 and 0.94) have been reported. The researcher however, has adopted this and modified some items. For example, some items were added to the parental participation domain to explore more and other items dropped due to being not applicable in our healthcare system. The first 10 items focused on information, 11- 26 care and treatment,27-41 parental participation,42-49 organization, 50-61 professional attitude and 62- 65 on general satisfaction. The responses are given on a 0(not satisfied) to 4(highly satisfied) Likert scale. Mean scores were calculated within domains.

3.5.2 Selection and training of research assistants

Two research assistants were selected and trained on questionnaire administration and data collection process. They were recruited among Bachelor of Science Nursing students on internship rotation at Kenyatta National Hospital.

3.5.3 Pretesting the tool

The tool was pretested on mothers with preterm babies in neonatal nursery at Mbagathi Hospital due to proximity to my study area. The sample size used for pretesting was 11 mothers which represented 10% of the 108 mothers that was used during the study. The pretest was used to help find out any shortcomings, weaknesses and strengths of the questionnaire so as to test its effectiveness before the actual study. The findings were used to modify the questionnaire to ensure its validity and reliability. The same was used to train the research assistants.

3.5.4 Data collection procedures

3.5.4a Recruitment process

Eligible participants were mothers whose neonates meet the inclusion criteria. They were recruited from the new-born unit, by the researcher approaching them individually and informing them about the study. Once recruited, the consenting procedure followed.

Participants in the FGD were recruited among the nurses meeting the inclusion criteria working in new-born unit. The individuals were accessed prior to the set date for the FGD. Two FGDs were conducted during the change-over period once the nurses have handed over the patient's report.

3.5.4b Consenting procedure

The researcher introduced herself to the ward in-charge and provided evidence of approval to undertake the research. With permission granted, the researcher approached individual neonatal mothers. The researcher introduced self and issued an invitation to the study

participant to participate in the study. Study participants were given information pertaining their participation (appendix 3a) in the study in-order to make an informed consent (appendix 3c). The FGD participants were given information on the study title, objectives and benefits. Upon acceptance to participate, they were requested to sign a consent form (appendix 3e).

3.5.4c Interview procedure

Each prospective participant was approached and explained about the study (appendix 3a). after she consents to participate (appendix 3C), she was taken to a preserved room within new-born unit where the researcher asked questions as per the questionnaire (appendix 1) and then recorded responses on the respective sections in the questionnaire.

Consenting participants for the FGD were gathered in a preserved room in the new-born unit, and the researcher guided the discussion per the tool (appendix 2). The discussion was audio-taped with permission from the participants.

3.6 Ethical consideration

Ethical approval was obtained from the Ethics and research Committee KNH /UON. Authority to conduct research was requested from director Kenyatta National Hospital. Informed consent (Appendix 3c and 3e) was sought from study participants and utmost confidentiality was held. Participants signed the voluntary informed consent prior to participation having known the details and purpose of the study. In addition, there was no coercion or inducement to participate. Anonymity of participants was ensured by serializing the structured questionnaires. No form of identification was required from participants or any markers to identify participants noted on any questionnaires. All research tools were only accessible by the researcher. They were stored under lock and key and research information in computers under passwords.

3.7 Control of bias and error

The researcher pre-tested the tool before using it. Only mothers with neonates admitted in new-born unit and nurses working in new-born unit were included in the study. Respondents did not

include their names in the questionnaires. Questionnaires were checked for completeness before data entry and analysis. The cultural beliefs and attitudes of the researcher did not influence the findings of the study because that would have hampered with the essence of carrying the research.

3.8 Data verification

Following data collection, questionnaires were checked for completeness, consistency and clarity before data entry was done, the questionnaires (appendix1) with acceptable data was coded.

3.9 Data management and analysis

Data analysis was done using the statistical package for social sciences (SPSS); it allows easy data entry and analysis. After data collection, questionnaires were checked for completeness. Incomplete questionnaires were left out during data entry process. Each questionnaire was entered into Microsoft Excel using its identifier number for cleaning. Data was then exported to statistical package for social sciences (SPSS) version 23 for analysis. Univariate analysis was used for socio demographic data, while bivariate data was analysed by chi- square.

The qualitative data from focused group discussion was collected and transcribed. Results was categorized into themes based on the frequency of how the nurses described the subject matters and analysed manually.

Associations between variables was tested using chi-square. Associations between the variables was calculated at 95% confidence interval (P-value of ≤ 0.05), to minimize the statistical error and hence have credible findings. The final data was presented using the pie charts, frequency distribution tables, graphs for the results.

3.10 Dissemination of the study results

The research findings and final research report was presented and submitted to the School of Nursing, University of Nairobi. Findings were also shared with the new-born unit staff and the management of Kenyatta National Hospital. The work was also published in a peer- reviewed journal.

CHAPTER FOUR: RESEARCH RESULTS

4.1 Introduction

This chapter presents the research findings of the study from 108 participants who responded to a questionnaire and a Focused Group Discussion (FGD) among 6 NBU nurses. Data was entered into SPSS spread sheet and analysed to capture the specific objectives of the study. Quantitative data analysis was done using both univariate analysis (descriptive statistics) and bivariate analysis (chi-square). Descriptive statistics were presented using frequency tables and figures while chi-square was presented inform of a table. Qualitative data was transcribed verbatim, coded and deductively analysed into themes using content analysis method.

The sections of this chapter are as follows: introduction, Maternal socio-demographic characteristics, Neonatal socio-demographic characteristics, Institutional processes determining maternal satisfaction with care of neonates, Institutional structures determining maternal satisfaction with care of neonates and, General satisfaction.

4.2 Maternal socio-demographic characteristics

The findings in table 1 shows that majority of mothers (63.0%, n = 68) who had their neonates admitted in NBU were residents of Nairobi County.

The age of the mothers interviewed ranged between 14 – 41 years, with a mean age of 25.58 (SD, 6.18) years (table 1).

Majority (56.5%, n = 61) of the participants reported that they were unemployed (table 1), 16.7% (n = 18) were self- employed and 12.0% (n = 13) working in private sector.

On marital status, majority (73.1%, n = 79) of the participants were married while 24.1% (n =26) were single.

On religion, majority (51.9%, n = 56) were protestants, 25.6% (n = 28) Catholics with 17.6% (n = 19) indicating that they were in other religions not specified (table 1).

Most (48.1%, n = 52) of the participants had secondary education and only 1.9% (n = 2) had no formal education (table 1)

The least amount specified as gross income was Kshs. 1,100 and the highest was KShs. 80,000 (table 1). The average gross income per month was KShs. 18,859.90 (SD, 17,569.80).

It was also shown that majority (57.4%, n = 62) of the participants had not registered for NHIF.

Table 1: Socio-demographic factors of the mothers

Variable	Frequency, n (%)
Residence	
Nairobi	68 (63.0)
Outside Nairobi	40 (37.0)
Age	
20 years and below	26 (24.1)
21 - 25 years	31 (28.7)
26 - 30 years	27 (25.0)
31 - 35	15 (13.9)
36 years and above	9 (9.3)
Occupation	
Government	4 (3.7
Private Sector	13 (12.0)
Self employed	18 (16.7)
Unemployed	61 (56.5)
Informal Sector	6 (5.6)
Student	6 (5.6)
Marital Status	
Married	79 (73.1)
Single	26 (24.1)
Divorced	1 (0.9)
Separated	2 (1.9)
Religion	
Protestant	56 (51.9)
Catholic	28 (25.6)
Muslim	2 (1.9)
None	3 (2.8)
Others (specify)	19 (17.6)
Level of Education	
Primary	26 (24.1)
Secondary	52 (48.1)
Tertiary	28 (25.9)
No formal education	2 (1.9)

Table 1: Socio-demographic factors of the mothers (continued)

Gross income per month (KShs.)	
5,000 and below	20 (20.6)
5,001 - 10,000	27 (27.8)
10,001 - 20,000	22 (22.7)
20,001 - 35,000	13 (13.4)
35,001 - 50,000	10 (10.3)
Above 50,000	5 (5.2)
NHIF membership	
Yes	46 (42.6)
No	62 (57.4)

4.3 Neonatal socio-demographic characteristics

Socio-demographic factors of the neonates are represented in table 2. It is shown that majority of the neonates in the study (51.9%, n = 56) were male.

The ages of the neonates ranged between 3 days old to 180 days old with a mean age of 18.9 (SD, 22.6) days.

The minimum and the maximum birth weight of the neonates were 780 grams and 5000 grams respectively with an average of 2476.1 (SD, 815.5) grams.

The gestation in weeks at birth was ranging between 21 – 42 weeks with a mean of 34.6 (SD, 5.1) weeks.

The neonates were admitted in the NBU due to various conditions which included prematurity/low birth weight (38.9%, n = 42) and respiratory distress of the new born (3.7%, n = 4).

The length of stay in the NBU mirrored the age of the neonates though there were slight differences where a neonate was discharged but re-admitted after few days. The admission days ranged between 3 – 180 days with an average of 20.9 (SD, 25.3) days.

Majority of the mothers (73.1%, n = 79) gave birth through spontaneous vaginal delivery with 26.9% (n = 29) giving birth through caesarean section.

Table 2: Socio-demographic factors of the neonates

Variable	Frequency, n (%)
Gender	
Male	56 (51.9)
Female	52 (48.1)
Age	
0 - 7 days	39 (36.1)
8 - 28 days	47 (43.5)
More than 28 days	22 (20.4)
Birth weight in grams	
750 - 1500	8 (7.4)
1501 - 2499	46 (42.6)
2500 and above	54 (50.0)
Gestation of the mother at birth	
21 - 28 weeks	15 (13.9)
29 - 36 weeks	47 (43.5)
>= 37 weeks	46 (42.6)
Diagnosis	
Birth asphyxia	23 (21.3)
Congenital malformation	20 (18.5)
Neonatal jaundice	8 (7.4)
Neonatal sepsis	6 (5.6)
Prematurity	42 (38.9)
Respiratory distress of the newborn	4 (3.7)
Others	5 (4.6)
Duration of admission	
0 - 7 days	36 (33.3)
8 - 28 days	46 (42.6)
More than 28 days	26 (24.1)
Mode of delivery	
Spontaneous vaginal delivery	79 (73.1)
Caesarean section	29 (26.9)

4.3.1 Maternal satisfaction with neonate recovery progress

The mothers were further asked if they were happy with the progress of the baby and to explain their responses. From the responses, 81% (n = 88) were happy with the progress of the baby while 19% (n = 20) were not happy with the progress of the baby.

Those who were happy with the progress of the baby gave several reasons like: the baby has improved, the baby has added weight and is healthy, the baby is breastfeeding well, the baby is breathing well and feeding among others. Some went further to explain why they were happy with the progress of the baby. These are some of the statements verbalized by the mothers: *"My baby is better handled in K.N.H than where I was"; "The eyes of my baby are getting clear"; "My baby is out of danger"; "My baby is off oxygen and has gained weight" and "My baby smiles at me and cries less".*

Those mothers unhappy with the progress of their babies had also a lot to explain why they felt so. Some of the statements were: "*The baby wasn't attended to for the first one and a half months of admission. Baby is showing no progress"; "My baby has not been attended to. My baby still has the deformity"; "The baby is losing weight and I have no proper explanation on what is happening"; "I fear my baby will contact other disease from other children due to mixing of babies hence longer hospital stay"* and *"I was told my baby needed oxygen and she will be fine. Now it is more than 2 weeks and still admitted. X - ray was done and I don't know what was found."*

4.4 Institutional processes determining maternal satisfaction with care of neonates

4.4.1 Information

From table 3, majority of the participants rated most of the indicators as satisfying. For the information component, the highly rated indicators of satisfaction were: the information given by the doctors and nurses is always the same (95.4%, n = 103) and the information provided by the doctors and nurses is understandable (89.8%, n = 97). The indicators of satisfaction rated

as not satisfied were; understandable information about the drugs' effect is given (76.8%, n=83) and am informed about the expected health outcomes of my child (76.8%, n=83).

Table 3: Institutional processes (information) determining maternal satisfaction with care of neonates

PROCESS	FREQUENCY (%)

Information	Not satisfied	Satisfied
The team gives honest information	21(19.4)	87 (80.6)
Am promptly informed when my child's condition worsens	44 (40.7)	64 (59.2)
The information provided is understandable	11 (10.2)	97(89.8)
My questions are clearly answered	29 (26.8)	79 (73.2)
Am clearly informed about the consequences of the treatment	74 (70.3)	34 (31.5)
Clear information about my child's disease is given	29 (26.8)	79(73.1)
Clear information about the investigations and tests is given	56 (51.8)	52 (48.1)
Understandable information about the drugs' effect is given	83 (76.8)	25 (23.2)
I have daily talks about my child's care and treatment with the team	71 (65.7)	37 (34.3)
Am informed about the expected health outcomes of my child	83 (76.8)	25 (23.2)
The information given by the team is always the same	5 (4.6)	103(95.4)

4.4.2 Parental participation in care

On parental participation, the mothers highly rated almost all the indicators of satisfaction as satisfying. Some of these indicators are: I bath my baby and change his/her clothes (96.3%, n = 104); I keep track of how much my baby feeds and record this information on a chart or report to the nurse (95.4%, n = 103) and I help secure the oxygen mask for my child (93.5%, n = 101) among others (table 4).

Table 4: Institutional processes (parental participation in care) determining maternal satisfaction with care of neonates

PROCESS	FREQUENCY (%)	
Parental participation	**Not satisfied**	**Satisfied**
I have confidence in the team	23 (21.3)	85 (78.7)
During intensive procedures I always stay close to my child	57 (52.8)	51(47.2)
The nurses stimulate me to help in the care of my child	24(22.2)	84 (77.8)
The nurses help me in the bonding with my child	18(16.7)	90 (83.4)
Am encouraged to stay close to my child	18 (16.7)	90 (83.4)
Am actively involved in decision making regarding my child	66 (61.2)	42 (38.9)
I keep track of how much my baby feeds	5 (4.6)	103(95.4)
I keep track of my child's elimination	5 (4.6)	103(95.4)
I bath my baby and change his/her clothes	4 (3.7)	104(96.3)
I feed my baby through the nasogastric tube	5 (4.6)	103(95.4)
I help the nurse give oral medication to my child	6 (5.5)	102(94.5)
I take my baby's vital signs particularly temperature	5 (4.6)	103(95.4)
I help secure the oxygen mask for my child	7(6.5)	101(93.5)

4.4.3 Professional attitude

Indicators of satisfaction under professional attitude that were highly rated as satisfying were; the team works hygienically (99.1%, n=107) and at my bedside, the discussion between the team is only about my child (95.3%, n=103). (table 5).

On being dissatisfied, the indicator with absolute majority of the mothers rating as dissatisfying was: the team always introduce themselves (79.6%, n=86).

Table 5: Institutional processes (professional attitude) determining maternal satisfaction of care of neonates

PROCESS	**FREQUENCY (%)**	
Professional attitude	**Not satisfied**	**Satisfied**
When my child's condition worsens, prompt action is taken	39 (36.1)	69(63.9)
The doctors and nurses are real professionals	19 (17.6)	89 (82.4)
My child's medical history was known on admission	10 (9.3)	98 (90.8)
My child is well taken care of while in the incubator/ cot	44 (40.7)	64 (59.3)
During acute situations am always supported	70 (64.8)	38(35.2)
My child's comfort is taken into account	61 (56.5)	47 (43.5)
The team is alert to the prevention and treatment of pain in my child	6 (5.6)	102(94.5)
The correct medication is always given on time	15(13.9)	93 (86.2)
My child's needs are well taken care of	26 (24.0)	82 (75.9)
Attention is paid to my child's developmental by the team	16(14.8)	92 (85.2)
The team has a common goal: what's best for my child and I	17 (15.7)	91 (84.3)
The team is caring to my child and to me	31 (28.7)	77 (71.3)
I am emotionally supported	66 (61.1)	42 (38.9)
The doctors and nurses work closely together	2 (1.8)	106(98.2)
The team respond well on my own needs	66 (61.1)	42 (38.9)
Every day I know whoever is responsible for my child	83 (76.8)	25 (23.2)
My cultural background is taken into account	23 (21.3)	85 (78.7)
My child's health always come first for the team	23 (21.3)	85 (78.7)
The team works hygienically	1 (0.9)	107(99.1)
The team shows respect for my child and myself	12 (11.1)	96(88.9)
The team respects the privacy of my child and myself	30 (27.8)	78 (72.2)
I feel welcome by the team	15 (13.9)	93 (86.1)
The staff is friendly and understanding	51 (47.2)	57 (52.8)
The doctors and nurses take time to listen to me	48 (44.5)	60 (55.5)
Despite the workload, sufficient attention is paid to us	37 (34.3)	71 (65.7)
I receive empathy from the doctors and nurses	39 (36.1)	69 (63.9)
The team always introduce themselves	86 (79.6)	22 (20.3)
At my bedside, the discussion between the team is only about my child	5 (4.6)	103(95.3)

4.5 Institutional physical structures determining maternal satisfaction with care of neonates

From figure 1, it can be shown that more than half of the indicators of satisfaction were rated as satisfying. The indicators highly rated as satisfying were: the new born unit is clean (94.4%, n = 102), the neonatal unit is safe for my child (85.2%, n = 92), my child's incubator or cot is clean (82.4%, n = 89) and the team works efficiently (74.1%, n = 80).

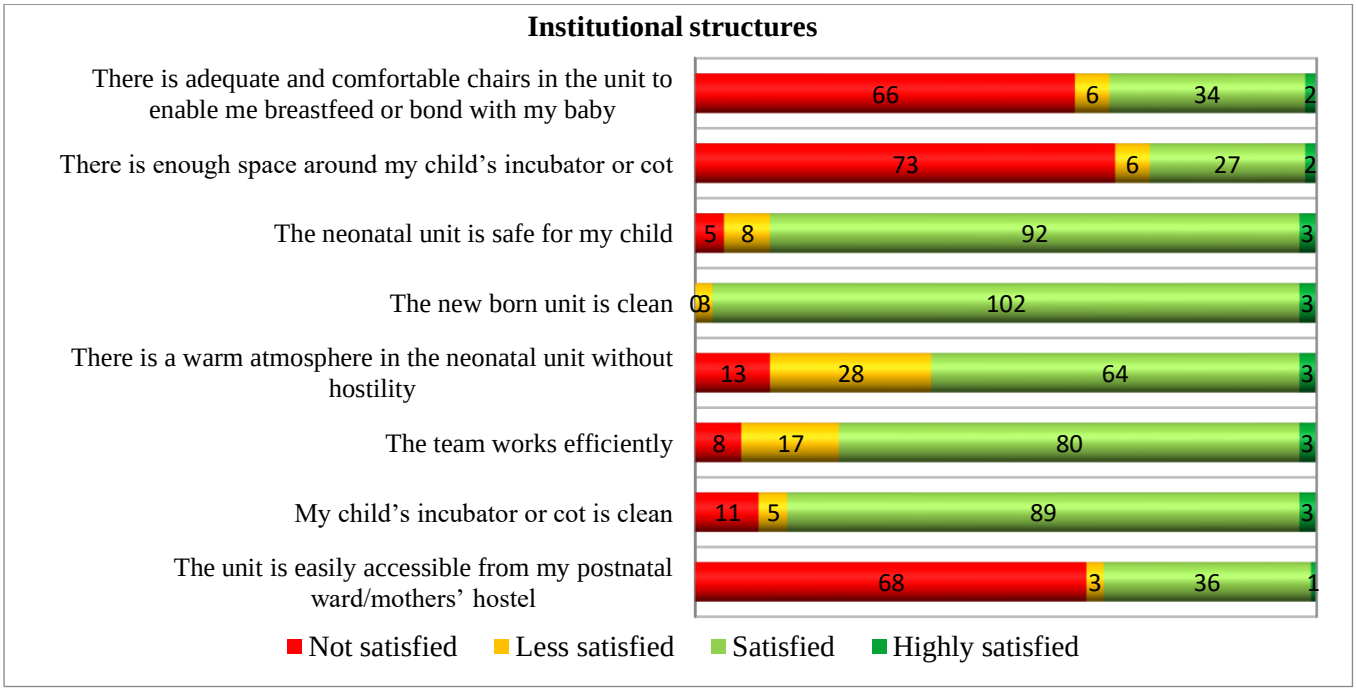


Figure 1: Institutional structures determining maternal satisfaction with care of neonates

4.6 General satisfaction with care provided to neonates

The participants were asked to rate the level of satisfaction of the services offered to their new-borns by the doctors and nurses. They were also asked whether they would come back to the NBU and recommend the same to other parents. The result is shown in figure 2.

Majority (53.7%, n = 58) of the participants were satisfied with the doctors' work and only 7.4% (n = 8) were not satisfied. On the other hand, most participants (46.3%, n = 50) were satisfied with the nurses' work with 20.4% (n = 22) being highly satisfied and 13.9% (n = 15) and 19.4% (n = 21) less satisfied and not satisfied respectively.

On whether the mothers could recommend the NBU to other parents, majority (54.6%, n = 59) were likely to recommend the NBU care to other parents. As to whether they could come back to the NBU when need arises, 44.4% (n = 48) were likely to come back to the same NBU should need arise.

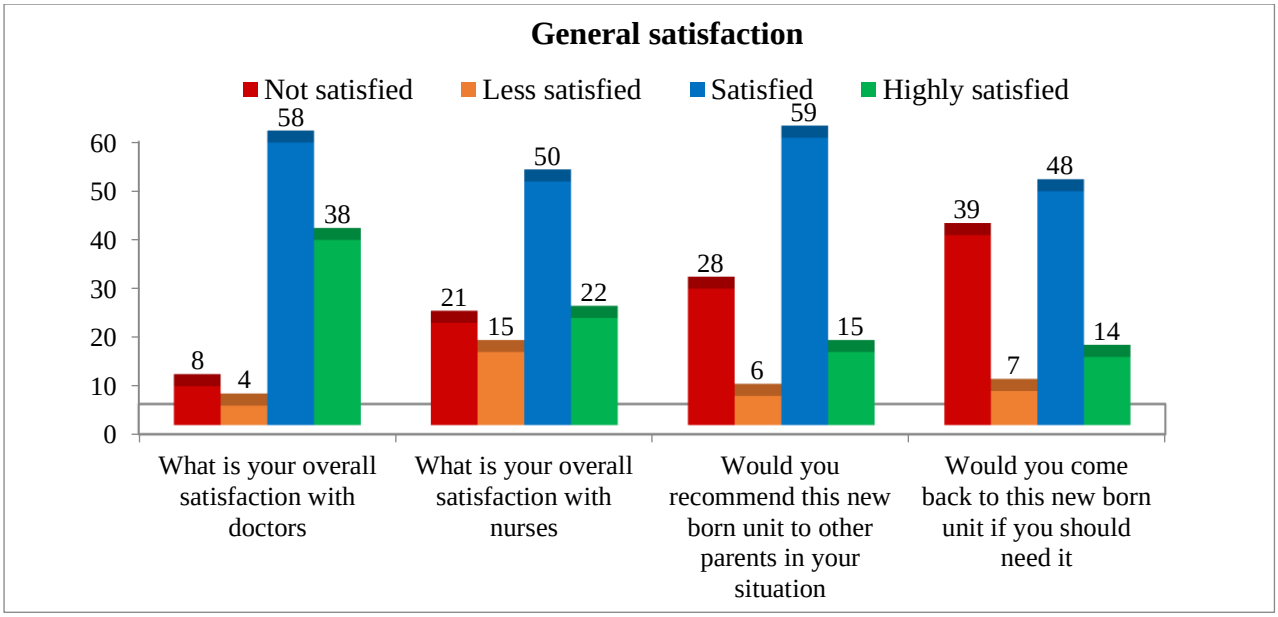


Figure 2: General satisfaction with care provided to neonates

4.7 Relationship between maternal socio-demographic characteristics and satisfaction with care provided to neonates

From table 6, it is shown that there was a relationship between maternal socio-demographic characteristics and the mothers' happiness on the progress of the baby. It is shown that 86.6% of those with tertiary education indicated that they were happy with progress of their baby as opposed to 75.0% for primary education. During the FGD, one of the participants said "*educated mothers above class 7 will have better understanding of procedures and explanations that they are given*"

However, there was no statistically significant relationship between the maternal socio-demographic characteristics and the mothers' happiness with the progress of the baby.

Table 6: Relationship between maternal socio-demographic characteristics and satisfaction with care provided to neonates

Variable	**Category**	**Mother happy with the progress of the baby**		**Degrees of freedom**	**Chi square - value**	**P - value**
Socio-demographic of the mother		**Yes**	**No**			
Residence	Nairobi	86.8% (59)	13.2% (9)	1	3.396	0.065
	Outside Nairobi	72.5% (29)	27.5% (11)			
Age	<= 20 years	80.8% (21)	19.2% (5)	2	1.023	0.6
	21 - 30 years	84.5% (49)	15.5% (9)			
	>30 years	75.0% (18)	25.0% (6)			
Occupation	Employment	82.9% (34)	17.1% (7)	1	0.091	0.762
	Unemployment	80.6% (54)	19.4% (13)			
Marital status	Married	81.0% (64)	19.0% (15)	1	0.043	0.836
	Single	82.8% (24)	17.2% (5)			
Level of education	Primary	75.0% (21)	25.0% (7)	2	1.818	0.403
	Secondary	86.5% (45)	13.5% (7)			
	Tertiary	86.6% (22)	13.4% (6)			
NHIF membership	Yes	76.1% (35)	23.9% (11)	1	1.545	0.214
	No	85.5% (53)	14.4% (9)			

4.8 Relationship between neonates' socio-demographic characteristics and satisfaction with care provided to neonates.

Mothers who delivered neonates at the gestation period of 29 to 36 weeks were significantly(P=0.021) more likely to be satisfied with the progress of the baby (91.5%) compared to those with a gestation period of over 37 weeks (69.6%). Similarly, the level of satisfaction was significantly (0.042) more among mothers who delivered via spontaneous vaginal delivery (86.1%) as compared to those who delivered via caesarean section (69.0%) (table 7).

The nurses also described how the neonates' birth process influences the perception of the mother on care of the baby. One participant stated that: "*some even go through caesarean section, you wake up and you can't even get your baby. You can imagine that torture. You wake up and you are told your baby is in new-born unit, psychologically you are disturbed. By the time they come in they are already depressed, like the ones that take long before coming. They don't know what to expect because you know here, you are told your baby is being taken care of and you aren't able to see what is happening."*

Table 7: Relationship between neonates' socio-demographic characteristics and satisfaction with care provided to neonates

Variable	Category	Mother satisfied with the progress of the baby		Degrees of freedom	Chi square - value	P - value
Socio-demographic of the neonate		**Yes**	**No**			
Gender	Male	80.4% (45)	19.6% (11)	1	0.097	0.755
	Female	82.7% (43)	17.3% (9)			
Age	0 - 7 days	82.1% (32)	17.9% (7)	2	0.336	0.845
	8 - 28 days	83.0% (39)	17.0% (8)			
	More than 28 days	77.3% (17)	22.7% (5)			
Birth weight in grams	750 - 1500	100.0% (14)	0.0% (0)	2	5.474	0.065
	1501 - 2499	85.0% (34)	15.0% (6)			
	2500 and above	74.1% (40)	25.9% (14)			
Gestation of the mother at birth	21 - 28 weeks	86.7% (13)	13.3% (2)	2	7.716	**0.021**
	29 - 36 weeks	91.5% (43)	9.5% (4)			
	>= 37 weeks	69.6% (32)	30.4% (14)			
Duration of admission	0 - 7 days	83.3% (30)	16.7% (6)	2	1.631	0.442
	8 - 28 days	84.8% (39)	15.2% (7)			
	More than 28 days	73.1% (19)	26.9% (7)			
Mode of delivery	SVD	86.1% (68)	13.9% (11)	1	4.116	**0.042**
	CS	69.0% (20)	31.0% (9)			

4.9 Relationship between institutional processes and satisfaction with care provided to neonates.

4.9.1 Information

There was a significant association between the doctors and nurses giving honest information and the mother being happy with the progress of the baby ($p < 0.01$). Being informed right away when the child's condition worsens ($p= 0.001$), questions being clearly answered ($p < 0.01$), having daily talks about the baby's care and treatment ($p=0.011$) and being given clear information about the baby's disease ($p<0.01$) greatly contributed to the mothers being happy with the progress of their babies (table 8).

However, during the FGD with the nurses, it was observed that it was not possible for the nurses to share the needed information with the mothers due to understaffing. One nurse further explained "*there is a lot of information to give every time the mother comes to feed the baby, but only general information is given like feeding through health talk. Specific information depending on the condition of the baby isn't given. And sometimes when they ask you a question, they think you are ignoring them because sometimes they misinterpret but you could be bagging. She comes pulls you from bagging for an NG tube. To you, you know an NG tube isn't a priority, it isn't an emergency either, so you want to finish with whatever you are doing but to them they have no that understanding. They think you are ignoring them because to them every baby is "my baby". They talk, but you know your conscious is clear because you have to save life first then feed.*"

Table 8: Relationship between institutional processes(information) and satisfaction with care provided to neonates

Variable	Category	Mother happy with the progress of the baby		Degrees of freedom	Chi square - value	P - value
		Yes	No			
Institutional processes						
Information						
The doctors and nurses give honest information to me	No/less satisfied	52.4% (11)	47.6% (10)	1	14.631	**0.000**
	Satisfied	88.7% (77)	11.3% (10)			
Am always informed right away when my child's physical condition worsens	No/less satisfied	65.9% (29)	34.1% (15)	1	11.933	**0.001**
	Satisfied	92.2% (59)	7.8% (5)			
The information provided by the doctors and nurses is understandable	No/less satisfied	72.7% (8)	27.3% (3)	1	0.622	0.430
	Satisfied	82.5% (80)	17.5% (17)			
My questions are clearly answered	No/less satisfied	58.6% (17)	41.4% (12)	1	13.731	**0.000**
	Satisfied	89.9% (71)	10.1% (8)			
The doctor clearly informs me about the consequences of my child's treatment	No/less satisfied	75.7% (56)	24.3% (18)	1	5.251	**0.022**
	Satisfied	94.1% (22)	5.9% (2)			
Am given clear information about my child's disease	No/less satisfied	58.6% (17)	41.4% (12)	1	13.731	**0.000**
	Satisfied	89.9% (71)	10.1% (8)			
I receive clear information about the investigations and tests	No/less satisfied	75.0% (42)	25.0% (14)	1	3.238	0.072
	Satisfied	88.5% (46)	11.5% (6)			
I receive understandable information about the effects of the drugs	No/less satisfied	78.3% (65)	11.7% (18)	1	2.385	0.122
	Satisfied	92.0% (23)	8.0% (2)			
I have daily talks about my child's care and treatment with the doctors and nurses	No/less satisfied	74.6% (53)	25.4% (18)	1	6.414	**0.011**
	Satisfied	94.6% (35)	5.4% (2)			
The doctor informs me about the expected health outcomes of my child	No/less satisfied	80.7% (67)	19.3% (16)	1	0.137	0.712
	Satisfied	84.0% (21)	16.0% (4)			
The information given by the doctors and nurses is always the same	No/less satisfied	60.0% (3)	40.0% (2)	1	1.603	0.230
	Satisfied	82.5% (85)	17.5% (18)			

4.9.2 Professional attitude

The child always being taken care of while in the incubator/ cot and mother's satisfaction with progress of the baby was significantly associated($p=0.003$) (table 9). The child's comfort being taken into account by the doctors and nurses ($p=0.019$) and a nurse being there during acute situations ($p=0.036$) were also associated with the mother's satisfaction with progress of the baby. Moreover, the doctors and nurses acting in a professional way ($p< 0.01$) and the child's medical history being known by the team on admission ($p< 0.01$) significantly contributed to the mother's satisfaction.

This finding agrees with the FGD, which observed that professionalism plays a crucial role in satisfaction. "*on part of the professional aspect of those who are offering the services. Prompt action in respect to the problem also contributes to satisfaction because you could have the full information, you explain to the patient but without prompt action because if the baby comes in with a complaint which should be attended. You explain then there is no action up to 2 days that will take you aback. So, prompt action in whatever situation would help them get satisfaction."*

Table 9: Relationship between institutional processes (Professional attitude) and satisfaction with care provided to neonates

Variable	Category	Mother happy with the progress of the baby		Degrees of freedom	Chi square - value	P - value
		Yes	No			
Institutional processes						
Professional attitude						
When my child's condition worsens, action is immediately taken by the doctors and nurses	No/less satisfied	71.8% (28)	18.2% (11)	1	3.796	**0.051**
	Satisfied	87.0% (60)	13.0% (7)			
The doctors and nurses are real professionals; they know what they are doing	No/less satisfied	52.6% (10)	47.4% (9)	1	12.718	**0.000**
	Satisfied	87.6% (78)	12.4% (11)			
At admission my child's medical history was known by doctors and nurses	No/less satisfied	40.0% (4)	60.0% (6)	1	12.567	**0.000**
	Satisfied	85.7% (84)	14.3% (14)			
My child is always well taken care of by the nurses while in the incubator/ cot	No/less satisfied	68.2% (30)	31.8% (14)	1	8.704	**0.003**
	Satisfied	90.6% (56)	9.4% (9)			
During acute situations there is always a nurse to support me	No/less satisfied	75.7% (53)	24.3% (17)	1	4.385	**0.036**
	Satisfied	92.1% (35)	7.9% (3)			
My child's comfort is taken into account by the doctors and nurses	No/less satisfied	73.8% (45)	16.2% (16)	1	5.523	**0.019**
	Satisfied	91.5% (43)	8.5% (4)			
The team is alert to the prevention and treatment of pain in my child	No/less satisfied	83.3% (5)	16.7% (1)	1	0.014	0.904
	Satisfied	81.4% (83)	18.6% (19)			
The correct medication is always given on time	No/less satisfied	66.7% (10)	33.3% (5)	1	2.898	0.089
	Satisfied	84.8% (78)	15.2% (14)			
My child's needs are well taken care of	No/less satisfied	61.5% (16)	38.5% (10)	1	9.026	**0.003**
	Satisfied	87.8% (72)	12.2% (10)			
Attention is paid to my child's developmental by the doctors and nurses	No/less satisfied	68.8% (11)	31.2% (5)	1	2.018	0.115
	Satisfied	83.7% (77)	16.3% (15)			
The team has a common goal: the best care and treatment for my child and myself	No/less satisfied	52.9% (9)	47.1% (8)	1	10.892	**0.001**
	Satisfied	86.8% (79)	13.2% (12)			
The team is caring to my child and to me	No/less satisfied	64.5% (20)	35.5% (11)	1	8.294	**0.004**
	Satisfied	88.3% (68)	11.7% (9)			
I am emotionally supported	No/less satisfied	81.8% (54)	18.2% (12)	1	0.013	0.910
	Satisfied	81.0% (34)	19.0% (8)			
The doctors and nurses work closely together	No/less satisfied	50.0% (1)	50.0% (1)	1	1.035	0.309
	Satisfied	82.1% (87)	17.9% (19)			
The doctors and nurses respond well on my own needs	No/less satisfied	75.8% (50)	24.2% (16)	1	3.685	0.055
	Satisfied	90.5% (38)	9.5% (4)			
Every day I know who of the doctors and nurses is responsible for my child	No/less satisfied	79.5% (66)	20.5% (17)	1	0.916	0.336
	Satisfied	88.0% (22)	12.0% (3)			

Table 9: Relationship between institutional processes (Professional attitude) and satisfaction with care provided to neonates (continued)

Variable	Category	Mother happy with the progress of the baby		Degrees of freedom	Chi square - value	P - value
		Yes	No			
Institutional processes						
Professional attitude						
My cultural background is taken into account	No/less satisfied	73.9% (17)	26.1% (6)	1	1.109	0.292
	Satisfied	83.5% (71)	16.5% (14)			
My child's health always come first for the doctors and nurses	No/less satisfied	60.9% (14)	39.1% (9)	1	8.228	**0.004**
	Satisfied	87.1% (74)	16.9% (11)			
The team works hygienically	No/less satisfied	0.0% (0)	100.0% (1)	1	4.441	**0.035**
	Satisfied	82.2% (88)	17.8% (19)			
The team shows respect for my child and myself	No/less satisfied	83.3% (10)	16.7% (2)	1	0.031	0.861
	Satisfied	81.2% (78)	18.8% (18)			
The team respects the privacy of my child and myself	No/less satisfied	83.3% (15)	16.7% (5)	1	0.094	0.759
	Satisfied	80.8% (63)	19.2% (15)			
I feel welcome by the team	No/less satisfied	86.7% (13)	13.3% (2)	1	0.310	0.577
	Satisfied	80.6% (75)	19.4% (18)			
The staff is friendly and understanding	No/less satisfied	74.5% (38)	25.5% (13)	1	3.113	0.078
	Satisfied	87.7% (50)	12.3% (7)			
The doctors and nurses take time to listen to me	No/less satisfied	75.0% (36)	25.0% (12)	1	2.405	0.121
	Satisfied	86.7% (52)	13.3% (8)			
Despite the workload, sufficient attention is paid to my child and myself by the team	No/less satisfied	73.0% (27)	27.0% (10)	1	2.700	0.100
	Satisfied	85.9% (61)	14.1% (10)			
I receive empathy from the doctors and nurses	No/less satisfied	71.8% (28)	18.2% (11)	1	3.796	**0.051**
	Satisfied	87.0% (60)	13.0% (9)			
Nurses and doctors always introduce themselves by name and function	No/less satisfied	76.7% (66)	13.3% (20)	1	6.279	**0.012**
	Satisfied	100.0% (22)	0.0% (0)			
At my bedside, the discussion between the doctors and nurses is only about my child	No/less satisfied	80.0% (4)	20.0% (1)	1	0.008	0.930
	Satisfied	81.6% (84)	18.4% (19)			

4.9.3 Parental participation

There was a significant association between the mother's confidence in the team and satisfaction with the progress of the baby (p=0.001) (table 10).

Table 10: Relationship between institutional processes (Parental participation) and satisfaction with care provided to neonates

Variable	Category	Mother happy with the progress of the baby		Degrees of freedom	Chi square - value	P - value
		Yes	No			
Institutional processes						
Parental participation						
I have confidence in the team	No/less satisfied	56.5% (13)	43.5% (10)	1	12.066	**0.001**
	Satisfied	88.2% (75)	11.8% (10)			
During intensive procedures I always stay close to my child	No/less satisfied	77.2% (44)	22.8% (13)	1	1.471	0.225
	Satisfied	86.3% (44)	13.7% (7)			
The nurses stimulate me to help in the care of my child	No/less satisfied	75.0% (18)	25.0% (6)	1	0.859	0.354
	Satisfied	83.3% (70)	16.7% (14)			
The nurses help me in the bonding with my child	No/less satisfied	77.8% (14)	22.2% (4)	1	0.196	0.658
	Satisfied	82.2% (74)	17.8% (16)			
Am encouraged to stay close to my child	No/less satisfied	77.8% (14)	22.2% (4)	1	0.196	0.658
	Satisfied	82.2% (74)	17.8% (16)			
Am actively involved in decision making on care and treatment of my child	No/less satisfied	83.3% (55)	16.7% (11)	1	0.386	0.535
	Satisfied	78.6% (33)	21.4% (9)			
I keep track of how much my baby feeds and record this information on a chart or report to the nurse	No/less satisfied	100.0% (5)	0.0% (0)	1	1.192	0.275
	Satisfied	80.6% (83)	19.4% (20)			
I keep track of how often my child urinates and passes stool and record it on a chart or report to a nurse	No/less satisfied	100.0% (5)	0.0% (0)	1	1.192	0.275
	Satisfied	80.6% (83)	19.4% (20)			
I bath my baby and change his/her clothes	No/less satisfied	75.0% (3)	25.0% (1)	1	0.107	0.743
	Satisfied	81.7% (85)	18.3% (19)			
I feed my baby through the nasogastric tube	No/less satisfied	80.0% (4)	20.0% (1)	1	0.007	0.931
	Satisfied	81.6% (84)	18.4% (19)			
I help the nurse give oral medication to my child	No/less satisfied	66.7% (4)	33.3% (2)	1	0.978	0.372
	Satisfied	82.4% (84)	17.6% (18)			
I take my baby's vital signs particularly temperature	No/less satisfied	80.0% (4)	20.0% (1)	1	0.007	0.931
	Satisfied	81.6% (84)	18.4% (19)			
I help secure the oxygen mask for my child	No/less satisfied	71.4% (5)	18.6% (2)	1	0.501	0.479
	Satisfied	82.2% (83)	17.8% (18)			

4.10 Relationship between institutional structures and satisfaction with care provided to neonates.

The study found a significant association (p= 0.002) between the team working efficiently and the mother being happy with progress of the baby. Mothers who were satisfied with the progress of their baby thought the team worked efficiently (88.0%) compared to the mothers who were not satisfied (40.0%) (table 11).

There was no significant relationship between mothers' satisfaction and the unit being easily accessible from the postnatal ward or the mothers' hostel. However, during the FGD it was observed that the mothers' accommodation was thought to influence satisfaction. One of the participant said "*so you can imagine this mother who has delivered, third day post CS and you have no bed and you are expected to come here after every 3 hours to take care of her baby when herself she is not even comfortable wherever she is. Obviously, such a mother will be stressed."*

Table 11: Relationship between institutional structures and satisfaction with care provided to neonates.

Variable	Category	Mother happy with the progress of the baby		Degrees of freedom	Chi square - value	P - value
		Yes	No			
Institutional structures						
The unit is easily accessible from my postnatal ward/mothers' hostel	No/less satisfied	80.3% (57)	19.7% (14)	1	0.198	0.657
	Satisfied	83.8% (31)	16.2% (6)			
My child's incubator or cot is clean	No/less satisfied	81.2% (13)	18.8% (2)	1	0.001	0.979
	Satisfied	81.5% (75)	18.5% (17)			
The team works efficiently	No/less satisfied	60.0% (15)	40.0% (10)	1	9.948	**0.002**
	Satisfied	88.0% (73)	12.0% (10)			
There is a warm atmosphere in the neonatal unit without hostility	No/less satisfied	73.2% (30)	26.8% (11)	1	3.025	0.082
	Satisfied	86.6% (58)	13.4% (9)			
The new born unit is clean	No/less satisfied	66.7% (2)	33.3% (1)	1	0.449	0.503
	Satisfied	81.9% (86)	18.1% (19)			
The neonatal unit is safe for my child	No/less satisfied	84.6% (11)	15.4% (2)	1	0.096	0.756
	Satisfied	81.1% (77)	18.9% (18)			
There is enough space around my child's incubator or cot	No/less satisfied	78.5% (62)	11.5% (17)	1	1.755	0.185
	Satisfied	89.7% (26)	10.3% (3)			
There is adequate and comfortable chairs in the unit to enable me breastfeed or bond with my baby	No/less satisfied	79.2% (57)	20.8% (15)	1	0.767	0.381
	Satisfied	86.1% (31)	13.9% (5)			

CHAPTER FIVE: DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

In this chapter, the study findings in terms of maternal socio-demographics, neonatal characteristics, institutional physical structures and institutional processes related to satisfaction with care provided to neonates are explained and conclusion drawn from the findings. Recommendations were also made based on the findings.

5.2 Discussion

5.2.1 Characteristics of the study population

5.2.1.1 Maternal socio-demographic characteristics

In this study, the average age of mothers who participated was 25.58 years with the majority (28.7%) being between the ages of 21 to 25 years. This age correlates with the Kenya Demographic and Health Survey 2014 report which showed that 35% of Kenyan women start childbearing between the ages of 20 to 24 years(Survey, 2014). On level of education, it was shown that 86.6% of those with tertiary education indicated that they were happy with the progress of their baby. This could be attributed to the fact that they understand better the care provided and may give an accurate rating on the baby's progress. However some studies(Quintana *et al.*, 2006; Tsironi *et al.*, 2012; Yilmaz *et al.*, 2016) found that mothers with no formal education or lower educational levels had higher satisfaction levels.

The findings also showed that majority of the respondents were unemployed (56.5%). This is expected as 7.5% of the total population in Kenya is unemployed due to the slowdown in economic performance partly contributed by prolonged electioneering period in 2017, adverse effects of weather conditions and an increased global inflation(*Economic survey 2018*, 2018). On religion status of the respondents (77.5%) were Christians which is a true reflection of the religious practices in Kenya.

In this study, it was found that (85.5%) of the participants without NHIF membership were satisfied with the progress of their baby. The high satisfaction levels of these mothers could be related to affordable health services provided by the referral hospital. This is contrary to a study(Yilmaz *et al.*, 2016) which showed that mothers with a health insurance had higher satisfaction levels.

More than half (68%) of the respondents resided in Nairobi and they registered higher satisfaction levels (86.8%) unlike their colleagues who resided outside Nairobi. The possible explanation to this occurrence could be, those residing outside Nairobi are not familiar with the referral health care system hence may have different experiences and expectations from the hospital. They also may have few or no close relatives in Nairobi to frequently visit them hence the feeling of isolation.

5.2.1.2 Neonatal characteristics

Majority of the neonates (51.9%) in this study were male. This finding is consistent with the findings of a study conducted in Turkey on effect of sociodemographic characteristics on satisfaction of mothers which showed 52.2% of the newborns in the study were male(Yilmaz *et al.*, 2016).

On the length of stay in the new-born unit, a higher percentage (42.6%) was noted to have been in the unit between 8 to 28 days. Lower satisfaction levels were recorded among mothers who had stayed longest in the unit. This is similar to findings in other studies(Tokunaga and Imanaka, 2002; Quintana *et al.*, 2006; Tsironi *et al.*, 2012). This finding could stem from the fact that the shorter the stay the lesser stressed the mother becomes and the faster the mother is able to resume her other duties outside the hospital hence high satisfaction levels.

Mode of delivery was significantly associated with maternal satisfaction levels. (86.1%) of mothers who had delivered via spontaneous vaginal delivery were satisfied compared to

(69.0%) who had delivered via caesarean section, this could be attributed to less complications and faster recovery for mothers who deliver via spontaneous vaginal delivery hence less separation time from their babies.

The leading cause of admission to NBU was prematurity (38.9%). This finding agrees with World Health Organization assertion that prematurity is the leading cause globally for neonatal mortality in children under 5 years (WHO, 2015)

5.2.3 Institutional care processes

The results demonstrated that maternal satisfaction was greatly associated with information they receive from the doctors and nurses. For example, 89.9% of mothers whose questions were clearly answered were satisfied with the progress of their babies. This may be explained by the fact that the new-born unit environment may elicit fear, anxiety and uncertainty in mothers on the health status of their weak neonates. Hence receiving communication from the doctors and nurses is key in alleviating these emotions. In their study of needs of mothers with infants in NICU(Nicholas and Beckman, 2006) found that information and communication comes second after assurance among the key needs of mothers regarding their neonates. Similarly,(De Bernardo *et al.*, 2017) found that giving timely information and showing empathy during communication increased levels of satisfaction among mothers of sick neonates. On the contrary, providing scanty information leads to high levels of dissatisfaction(Fumis, Nishimoto and Deheinzelin, 2018). Mothers were however dissatisfied with some elements of information like having daily talks about my child's care and treatment (65.7%).

The fact that 96.3% of the mothers were satisfied with bathing and changing their babies among other activities of daily living, indicates the mother's desire to participate in care and that they understand the importance of these activities to their babies. This is also in line with Maslow's hierarchy of needs, whereby physiological needs comes first(Jerome, 2009).

There was also a strong correlation between professional attitude and maternal satisfaction. Most mothers didn't know the doctors and nurses responsible for their child (79.6%) and 64.8% felt neglected during acute situations while in the new-born unit. This could be attributed to the shortage of medical personnel leading to some procedures being left out. According to the Kenyan economy survey report 2018, there are 24 medical officers per 100,000 population and 112 registered nurses per 100,000 population(*Economic survey 2018*, 2018). This is similar to findings in FGD, where all participants agreed that a staff can't do as much when he/she is left alone to take care of many babies in one room because the babies have a continuous demand of care.

5.2.4 Institutional physical structures

Although there was no significant association between mothers' satisfaction and institutional physical structures; 63% of the mothers were not satisfied with the accessibility of the new-born unit from their postnatal ward or the mothers' hostel.(Raiskila *et al.*, 2017) similarly stated that mothers' preferred the neonatal unit close to the maternity wing. The study also found that (61.1%) of the mothers were dissatisfied with chairs provided to them to enable them to breastfeed and bond with their babies. This finding resemble that of a study carried out in Europe, where lack of appropriate facilities in the new-born unit to accommodate mothers due to limited space led to low satisfaction levels(Dykes *et al.*, 2016). This is expected due to the overstretch of the healthcare infrastructure. Nurses further exposed this during the focused group discussion where a participant stated that there is overcrowding of the babies due to inadequate space and high number of admissions. These babies have different conditions and therefore a mother may have a negative attitude towards the unit and even staff.

5.3 CONCLUSION

1.Maternal socio-demographic characteristics such as residence and age of the mother are not associated with the level of maternal satisfaction with care provided to neonates.

2. Some neonatal characteristics such as gestation of the mother at birth and mode of delivery influences maternal satisfaction with care provided to neonates.

3. Institutional care processes like parental participation, information and professional attitude contribute to maternal satisfaction with care provided to neonates.

4. Institutional physical structures like the distance between the NBU and the mothers' hostel and cleanliness of the unit doesn't influence maternal satisfaction with care provided to neonates.

5.4 RECOMMENDATIONS

1.There is need for staff training on communication and client relations to improve information sharing between the staff and the clients.

2.There is need to employ more specialized medical staff (neonatology and pediatrics) to improve quality of service provided.

3. The mothers' hostel should be placed close to the new-born unit to encourage bonding and reduce the mothers' stress levels.

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APPENDIX 1: QUESTIONNAIRE

STUDY TITLE: **Satisfaction with care provided to neonates admitted in new born unit at Kenyatta national hospital**

Serial Number……. Date of interview……..

Instructions

Thank you for your willingness to respond to my questions. This session will take 20- 30 minutes. You will be interviewed as the questionnaire is filled. Your responses will be recorded the way you put it. Thank you

SECTION I: SOCIO-DEMOGRAPHIC DATA OF PARENTS

CODE	SOCIO- DEMOGRAPHIC DATA
101	Where do you reside? Nairobi [ ] outside Nairobi [ ]
102	How old are you? Below 20 [ ] 20-25 [ ] 26-30 [ ] 31-35[ ] 36-40[ ] 41-45[ ]46-50[ ]
103	What is your occupation? Government [ ] private sector[ ] self employed [ ] unemployed [ ] informal sector[ ]
104	What is your marital status? Married [ ] single [ ] divorced [ ] widowed [ ] separated [ ]
105	To which religion do you belong?

	Protestant [ ] catholic [ ] muslim [ ] none [ ] others (specify)
106	What is your educational level? Primary level [ ] secondary level [ ] tertiary level [ ] no formal education[ ]
107	What is your gross income per month? <1000[ ] 1000- 5000[ ] 5,000-10,000[ ]10,000-20,000[ ]20,000-30,000[] 30,000-40,000[ ] 40,000-50,000[ ] 50,000-100,000[ ] above 100,000[ ]
108	Are you a member of National health insurance fund(NHIF)? Yes [ ] No[ ] another insurance scheme[ ]

NEONATAL DEMOGRAPHICS

CODE	NEONATAL CHARACTERISTICS
201	What gender is your neonate? Male [ ] female[ ]
202	How old is your new-born 0-7 days [ ] 8- 28 days [ ] more than 28days [ ]
203	At what age in weeks was the pregnancy at birth of your new-born? 25-32 weeks [ ] 33-37 weeks [ ] >37weeks[ ] others [ ]
204	What was the weight at birth of your new-born(in grams) <1000[ ] 1000-2000[ ] 2000- 3000 [ ] > 3000 [ ]
205	What was the mode of delivery of the new-born? Normal vaginal delivery [ ] caesarean section [ ] any other(specify)
206	What is the diagnosis of your neonate?

	Prematurity [ ] low birth weight[ ] respiratory distress of the new-born[ ] neonatal sepsis[ ] birth asphyxia [ ] neonatal jaundice[ ] others
207	For how long has your neonate been admitted in new born unit? 0-7 days [ ] 2 weeks[ ] 1 month[ ] others(specify)

1. Are you happy with the progress of your baby?

   Yes [ ]

   why……

   ……

   ……

   No [ ]

   Why

   ……

   ……

   ……...

2. Any suggestions on better

   care……

   ……

   ……..

SECTION 2

1. **For assessing institutional processes determining maternal satisfaction of care of neonates.**

In your opinion, how would you rate the following institutional processes in caring for your neonate in new born unit.

INFORMATION	**Not satisfied (1)**	**Less satisfied (2)**	**Satisfied (3)**	**Highly satisfied (4)**
The doctors and nurses gives honest information to me				
Am always informed right away when my child's physical condition worsens				
The information provided by the doctors and nurses is understandable				
My questions are clearly answered				
The doctor clearly informs me about the consequences of my child's treatment				
Am given clear information about my child's disease				
I receive clear information about the investigations and tests				
I receive understandable information about the effects of the drugs				

I have daily talks about my child's care and treatment with the doctors and nurses				
The doctor informs me about the expected health outcomes of my child				
The information given by the doctors and nurses is always the same				
CARE AND TREATMENT				
When my child's condition worsens, action is immediately taken by the doctors and nurses				
The doctors and nurses are real professionals; they know what they are doing				
At admission my child's medical history was known by doctors and nurses				
My child is always well taken care of by the nurses while in the incubator/ cot				
During acute situations there is always a nurse to support me				
My child's comfort is taken into account by the doctors and nurses				
The team is alert to the prevention and treatment of pain in my child				

The correct medication is always given on time				
My child's needs are well taken care of				
Attention is paid to my child's developmental by the doctors and nurses				
The team has a common goal: the best care and treatment for my child and myself				
The team is caring to my child and to me				
I am emotionally supported				
The doctors and nurses work closely together				
The doctors and nurses respond well on my own needs				
Every day I know who of the doctors and nurses is responsible for my child				
PARENTAL PARTICIPATION				
I have confidence in the team				
During intensive procedures I always stay close to my child				
The nurses stimulate me to help in the care of my child				

The nurses help me in the bonding with my child				
Am encouraged to stay close to my child				
Am actively involved in decision making on care and treatment of my child				
I keep track of how much my baby feeds and record this information on a chart or report to the nurse				
I keep track of how often my child urinates and passes stool and record it on a chart or report to a nurse				
I bath my baby and change his/her clothes				
I feed my baby through the nasogastric tube				
I help the nurse give oral medication to my child				
I take my baby's vital signs particularly temperature				
I help secure the oxygen mask for my child				
PROFESSIONAL ATTITUDE				
My cultural background is taken into account				
My child's health always come first for the doctors and nurses				
The team works hygienically				

The team shows respect for my child and myself				
The team respects the privacy of my child and myself				
I feel welcome by the team				
The staff is friendly and understanding				
The doctors and nurses take time to listen to me				
Despite the workload, sufficient attention is paid to my child and myself by the team				
I receive empathy from the doctors and nurses				
Nurses and doctors always introduce themselves by name and function				
At my bedside, the discussion between the doctors and nurses is only about my child				

2. for assessing institutional structures determining maternal satisfaction of care of neonates.

In your opinion, how would you rate the following institutional structures in caring for your neonate in new born unit.

ORGANIZATION	**Not satisfied (1)**	**Less satisfied (2)**	**Satisfied (3)**	**Highly satisfied (4)**
The unit is easily accessible from my postnatal ward/mothers' hostel				

My child's incubator or cot is clean				
The team works efficiently				
There is a warm atmosphere in the neonatal unit without hostility				
The new born unit is clean				
The neonatal unit is safe for my child				
There is enough space around my child's incubator or cot				
There is adequate and comfortable chairs in the unit to enable me breastfeed or bond with my baby				
GENERAL SATISFACTION				
Would you recommend this new born unit to other parents in your situation				
Would you come back to this new born unit if you should need it				
What is your overall satisfaction with doctors				
What is your overall satisfaction with nurses				

APPENDIX 2: FOCUSED GROUP DISCUSSION TOOL

Study title**: Satisfaction with care provided to neonates admitted in new born unit at Kenyatta national hospital**

Am Philomena Lumumba, a postgraduate student pursuing Master of Science in Nursing (pediatrics) at the school of nursing, university of Nairobi. I am carrying out on satisfaction with care provided to neonates admitted in new born unit at Kenyatta national hospital. Various factors have been mentioned to influence satisfaction levels of mothers with neonates in new-born unit. The findings of this study will help in restructuring the environment to offer better care to the neonates and boost the mothers' confidence in the healthcare sytem.

You are invited to this interview to talk about your experience concerning determinants of maternal satisfaction with care provided to neonates admitted in new-born unit. Information provided will be kept confidential and will not be linked to you. Thank you

1. In your opinion, what maternal socio- demographic characteristics influence satisfaction with care provided to neonates admitted in new-born unit?……
   ……
   ……
2. In your own words describe how a neonates' birth and health history influences maternal satisfaction with care provided to neonates admitted in new-born unit?……
   ……
   ……
   ……..
3. In what ways can the institution's physical environment influence maternal satisfaction with care provided to neonates admitted in new-born unit?.....
   .....
   .....
4. What care processes do you provide to the neonates on a daily basis? Do you think these care processes influences maternal satisfaction with care provided to neonates admitted in new-born unit?.....
   .....
   .....

Thank you so much for the cooperation and participation. The research findings will be shared with you at the end of the study.

APPENDIX 3a: PARTICIPANT INFORMATION SHEET

Study title**: Satisfaction with care provided to neonates admitted in new born unit at Kenyatta National Hospital**

Investigator: Lumumba Naliaka Philomena phone number; 0718 222945

School of nursing sciences

University of Nairobi

P.O Box 19676, Nairobi

Introduction: am a nursing student at the university of Nairobi, pursing a degree in Master of Science in nursing(paediatrics). Am conducting a study to determine factors influencing mothers' satisfaction regarding the care of the neonates in new born unit at Kenyatta National Hospital. I invite you to participate in this study and the following information is important to help you make an informed decision about participation.

Purpose of the study: the purpose of this study is to identify factors that contribute to maternal satisfaction with care provided to neonates admitted in new- born unit. It aims at determining the maternal socio- demographic characteristics, neonatal health and birth factors, institutional physical structures and care processes which influence satisfaction with care provided to neonates admitted in new- born unit.

Am conducting this study in partial fulfilment of the requirements for the award of degree of Master of Science in nursing (paediatrics) of the university of Nairobi.

Benefits of the study: the information you give me will help in identifying factors that contribute to satisfaction hence improve quality of care given to the neonates in new born unit. The findings will be presented to the hospital management and other key policy makers to help restructure the environment to offer better care for the neonates.

Risks: there are no physical and economical risks involved. However approximately 30 minutes of your time will be needed to answer the questions.

Participation: it's a voluntary participation. Confidentiality will be maintained, and the results will only be used for its intended purpose. Refusal to participate or withdraw from the study will not result in any penalty or consequences. You are free to ask questions or seek clarification at any point of the study

Compensation: there is no monetary compensation for participating in the study.

For more information or clarification; you can contact;

Supervisor: Dr. Chege Margaret

Lecturer, school of nursing(UON)

Email address: Margaret.chege@ gmail.com

Telephone number: 0725 555114

OR

The Ethics Board: KNH-UON ERC

Tel : +254-020-2726300 extension 44355

Email: uonknh_erc@uonbi.ac.ke

APPENDIX 3b: FOMU YA MAELEZO KUHUSU IDHINI

Study title**: Satisfaction with care provided to neonates admitted in new born unit at Kenyatta National Hospital**

Mtafiti: Lumumba Naliaka Philomena Rununu: 0718 222945

Shule ya Wauguzi

Chuo Kikuu cha Nairobi

Sanduku la posta 19676, Nairobi.

Utangulizi: jina langu ni Philomena, na mimi ni mwanafunzi katika Chuo Kikuu cha Nairobi. Ninafanya utafiti kuhusu kuridhika kwa huduma zinaotolewa kwa watoto wachanga walio na umri wa hadi siku 28 ambao wamelazwa kwenye kitengo cha watoto wachanga katika Hospitali kuu ya Kenyatta.

Umekaribishwa kushiriki katika utafiti huu. Walakini, maelezo yafuatayo yatakusaidia kumakinika unapotoa idhini yako kushiriki katika utafiti huu.

Lengo la utafiti: lengo kuu la utafiti huu ni kutambua vipengee vinavyochangia kuridhika kwa kina mama kuhusu huduma zinazotolewa kwa wanao wachanga. Utafiti unalenga kutambua hivyo vipengee kutoka nyumbani vile mama anayoishi, Maisha ya mtoto toka anapozaliwa na maradhi yanavyo anza, mazingira ya hospitali na huduma za hospitali.

Umehesabiwa kuwa mshirika ufaaye, kwa sababu wewe ndiye mzazi wa mtoto aliyelazwa.

Faida za utafiti: majibu utakayopeana yatasaidia kutambua sehemu za marekebisho ndiposa watoto wachanga wapate huduma bora.

Kuhusika kushiriki: kushiriki ni kwa hiari yako. Utaulizwa maswali ulipo kuhusu unapoishi na maswali mengine. Kujibu maswali kutachukua muda wa dakika 20 hadi 30.

Habari utakazopeana zitalindwa zisiweze kupatikana na watu wasiohusika kwa utafiti na habari yako haitaweza kutambulishwa nawe. Unao uhuru wa;

1. Kushiriki au kutoshiriki
2. Kujibu maswali uko sawa kwayo
3. Kusitisha kushiriki wakati wowote na habari yako italindwa na kuharibiwa

Kwa habari na maelezo Zaidi, una uhuru wa kuulizia;

Mwalimu wangu: daktari Margaret Chege

Shule ya Wauguzi, Chuo Kikuu cha Nairobi,

Barua pepe: Margaret.chege@gmail.com

Rununu: 0725 555114

AU

KNH-UON ERC: simu; +254-020-2726300 ext 44355

Barua pepe: uonknh_erc@uonbi.ac.ke

APPENDIX 3c: PARTICIPANT/MOTHER'S INFORMED CONSENT FORM

I (participant's number) …… agree to participate in this study having been explained its purpose, benefits and risks involved. I also understand that my participation in the study is voluntary and the decision to participate or not to participate will not affect my stay at this facility in any way whatsoever. I may also choose to discontinue my involvement in the study at any stage without any explanation or consequences. I have also been reassured that my personal details and the information I will relay will be kept confidential. I confirm that all my concerns about my participation in the study have been adequately addressed by the investigator and the investigator have asked me questions to ascertain my comprehension of the information provided.

Participant's signature/thumbprint…….

Witness signature ..…….

Date……

I confirm that I have clearly explained the content of the study to the participant and he/her has voluntarily agreed to participate without coercion.

Investigator's signature ……. Date ……..

APPENDIX 3d: FOMU YA KUTOA IDHINI KUSHIRIKI

Mimi (nambari ya siri) ……. natoa idhini yangu kwa hiari kushiriki katika utafiti ambao nimeelezewa lengo, faida na madhara yake. Nimejulishwa kwamba kushiriki kwangu ni kwa hiari na hakuna faida zozote za kifedha nitapokea.

Nimejulishwa pia kwamba ujumbe nitakaotoa utawekwa kisiri na hautaweza kutambulishwa nami. Nafahamu naweza kusitisha kushiriki kama itafaa kwa wakati wowote.

Hivyo basi natoa idhini yangu na ya mtoto wangu kushiriki katika utafiti utakaosaidia kutambua vipengele husika katika kuridhika kwa huduma zinaotolewa kwa watoto wachanga walio na umri wa hadi siku 28 ambao wamelazwa kwenye kitengo cha watoto wachanga katika Hospitali kuu ya Kenyatta, kwa hiari yangu**.**

Sahihi ya mshirika…….

Sahihi ya mshahidi……

Tarehe……....

Jina la mtafiti……Sahihi…….

Tarehe……..

APPENDIX 3e: NURSES FOCUS GROUP DISCUSSION CONSENT FORM

I Philomena Lumumba, a nursing student at the university of Nairobi pursuing a degree in Master of Science Nursing in paediatrics will be carrying out a study on determinants of maternal satisfaction of care of neonates admitted in new born unit at Kenyatta National Hospital. Am kindly asking for your participation in this study through contribution of views and ideas. This information will be regarded as group contribution and confidentiality will be maintained. Participation is voluntary and there are no consequences for refusal to participate.

I do hereby agree to participate, having been informed of the purpose, benefits and risks involved.

Participants' signature	date	serial number
……	……	……

In presence of researcher/research assistant:

Investigator's signature…… date……..

APPENDIX 4: REQUEST FOR AUTHORIZATION TO ETHICS COMMITTEE

THE UNIVERSITY OF NAIROBI,

SCHOOL OF NURSING SCIENCES,

P.O BOX 19676, 00202.

NAIROBI, KENYA.

TO THE CHAIRMAN,

KENYATTA NATIONAL HOSPITAL

ETHICS & RESEARCH COMMITTEE

P.O BOX

NAIROBI, KENYA.

Dear Sir/Madam,

RE: PERMISSION TO CONDUCT A RESEARCH IN NEW BORN UNIT AT KENYATTA NATIONAL HOSPITAL

I am currently undertaking a MSCN paediatrics nursing and one of the requirements in my final year of study is submission of research thesis within my area of specialization. I have picked a study on satisfaction with care provided to neonates admitted in New Born Unit at Kenyatta National Hospital. I am hoping to conduct this study within NBU and therefore was kindly seeking ethical approval to be able to access the Unit. The study will help identify factors contributing to satisfaction and in turn improve quality of care. Your assistance will be highly appreciated. Thank you.

Yours faithfully,

Philomena Lumumba

APPENDIX 5: REQUEST FOR PERMISSION TO CARRY OUT A STUDY

LUMUMBA N. PHILOMENA,

UNIVERSITY OF NAIROBI, SCHOOL

OF NURSING.

P.O BOX 19676, 00200

NAIROBI, KENYA

THE ASSISTANT DIRECTOR- PAEDIATRICS DEPARTMENT,

KENYATTA NATIONAL HOSPITAL,

P.O BOX 20723, 00202.

NAIROBI

Dear sir/madam,

RE: REQUEST FOR PERMISSION TO CARRY OUT RESEARCH

I am currently undertaking a MSCN paediatrics nursing and one of the requirements in my final year of study is submission of a research thesis within my area of specialization.my topic of interest is satisfaction with care provided to neonates admitted in NBU at K.N.H. am kindly requesting for your approval to undertake this study in your department. attached is a copy of the letter of approval from the Ethics and Research Committee. your support will be highly appreciated, thank you.

yours faithfully,

Philomena Lumumba

APPENDIX 6: REQUEST FOR AUTHORIZATION TO NURSE IN CHARGE NEW BORN UNIT

LUMUMBA N. PHILOMENA,

UNIVERSITY OF NAIROBI, SCHOOL OF NURSING.

P.O BOX 19676, 00200

NAIROBI, KENYA

THE IN CHARGE,

NEW BORN UNIT, KENYATTA NATIONAL HOSPITAL

P.O BOX 20723, 00202.

NAIROBI

Dear sir/madam,

RE: PERMISSION TO CONDUCT RESEARCH IN NEW BORN UNIT

I am currently undertaking a MSCN paediatrics nursing and one of the requirements in my final year of study is submission of research thesis within my area of specialization.my topic of interest is satisfaction with care provided to neonates admitted in NBU at K.N.H and am kindly seeking your permission to invite your nursing staff and parents within your unit to participate in the study. Your support will be highly appreciated. Thank you.

Yours faithfully,

Philomena Lumumba

BUDGET

ITEM DESCRIPTION	NO. OF UNITS	COST PER UNITS IN (KSH)	TOTAL COST (KSH)
STATIONERY			
Foolscaps	1ream	400	400
Pens	20pens	20	400
Flash disk	1	2000	2000
Pencil	10	15	150
Calculator	1	1500	1500
Folders	3	100	300
Stapler	1	50	50
Notebook A4 size	2	150	300
SERVICES			
Photocopying of 2 draft proposal @ 80 pages	160	2	320
4 final copies @ 100	400	2	800
Printing of 4 copies of the proposal @ 100	400	10	4000
Binding of 4 copies of the proposal	4	1500	6000
Thesis reports 6	6	600	3,200
Human resource biostatistician	1		30,000
Research assistants (2)	30 days	1000	60,000
KNH-UON ERC	Ethical review application fees	-	2000
Transport	-	-	3000
Contingency	15% of total cost	-	17,223
TOTAL			132,043

GHANT CHART

Duration of study: Ten months (October 2017 - August 2018)

Month / Activity	October – December 2017	January 2018	February 2018	March – June 2018	July 2018	August 2018	August 2018
Research proposal writing and submission to supervisor							
Submission to E.R.C							
E.R.C recommendations acted upon							
Training research assistants							
Pre-testing of data collection tools							
Data collection, entry and cleaning							
Data analysis							
Writing report							
Discussion and presentation							