

**UNIVERSITY OF BOTSWANA**



**FACULTY OF HEALTH SCIENCES**

**DEPARTMENT OF SCHOOL OF NURSING**

**MOTHERS' EXPERIENCES REGARDING PROLONGED HOSPITALIZATION OF  
THEIR PRETERM BABIES IN NEONATAL INTENSIVE CARE UNIT IN PRINCESS  
MARINA HOSPITAL**

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**Submitted to the School of Graduate Studies in partial fulfillment of the requirements for  
the degree of Masters in Nursing Science (Parent and Child Nursing).**

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**June 2016**

## TABLE OF CONTENTS

Statement of originality.....	i
Acknowledgement.....	ii
Approval page.....	iii
Abstract.....	iv
<b>Chapter One: Introduction</b>	
1.0 Introduction and Background.....	1
1.1 Problem statement.....	4
1.2 Significance of the study.....	5
1.2.1 Midwifery Education.....	5
1.2.2 Midwifery Practice.....	5
1.2.3 Policies.....	6
1.2.4 Research.....	6
1.3 Purpose of the study.....	7
1.4 Specific objectives.....	7
1.5 Research questions.....	7
1.6 Operational definitions.....	7

1.7 Summary.....	8
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**Chapter two: Literature review**

2.0 Introduction.....	9
-----------------------	---

2.1 Conceptual framework.....	9
-------------------------------	---

2.1.1 Application of theory to the study.....	13
---	----

2.2 Western literature.....	14
-----------------------------	----

2.2.1 Interaction of mothers of preterm babies with preterm babies and NICU atmosphere.....	14
--	----

2.2.2 Interaction of mothers of preterm babies with NICU equipments and health care professionals.....	18
---	----

2.2.3 Interaction of mothers of preterm babies with the NICU atmosphere.....	21
--	----

2.2.4 Interaction of mothers of preterm babies with other mothers.....	24
--	----

2.3 Regional literature review.....	27
-------------------------------------	----

2.3.1 Interaction of mothers of preterm babies with health care workers.....	27
--	----

2.4 Local literature review.....	30
----------------------------------	----

2.4.1 Interaction of mothers of preterm babies with their preterm babies, NICU equipments, members of staff and other mothers.....	30
---	----

2.5 Summary.....	33
------------------	----

## **Chapter three: methodology**

3.0 Introduction.....	34
3.1 Research design.....	34
3.1.1 Explorative.....	35
3.1.2 Descriptive.....	35
3.1.3 Contextual.....	35
3.2 Setting of the study.....	36
3.2.1 Profile of the institution.....	36
3.3 Population.....	37
3.3.1 The target population.....	37
3.4 Sampling.....	38
3.4.1 Sample size.....	38
3.4.1.1 Inclusion criteria.....	39
3.4.1.2 Exclusion criteria.....	39
3.5 Ethical considerations.....	39
3.5.1 Permission to conduct the study.....	40
3.5.2 Informed consent.....	40

3.5.3 The right to self determination.....	41
3.5.4 The right to privacy and confidentiality.....	41
3.5.4.1 Anonymity.....	42
3.6 Procedure of data collection.....	42
3.6.1 Recruitment of study participants.....	42
3.6.2 Instruments for data collection.....	43
3.7 Testing of instruments.....	44
3.8 Data collection.....	44
3.9 Data management.....	45
3.10 Preparation of data analysis.....	46
3.11 Data analysis method.....	46
3.11.1 Data preparation.....	46
3.11.2 Unit of data analysis.....	47
3.11.3 Data Display.....	47
3.12 Establishment of rigor.....	48
3.12.1 Credibility.....	48
3.12.2 Dependability.....	49

3.12.3 Confirmability.....	49
3.12.4 Transferability.....	50
3.13 Dissemination results.....	50
3.14 Limitations of the study.....	50
3.15 Summary.....	50
References.....	52

## **Appendices**

1. Request for permission from Ministry of Health to conduct a study.....	v
2. Request for permission to conduct a pilot study.....	vii
3. Request for a permission from Princess Marina Hospital to conduct a study.....	ix
4. Interview guide.....	xi
5. Consent form.....	xviii
6. Time line.....	xxvi
7. Research budget.....	xxviii

**STATEMENT OF ORIGINALITY**

The work contained in this project was completed by the author at the University of Botswana between May 2015 and April 2016. The work is original except where due references are made and neither has it been submitted for any reward at any other university.

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## ACKNOWLEDGEMENTS

I would like to send my sincere gratitude to my supervisor, Professor K.D. Mogobe for her dedication and guidance in preparing this research proposal. Another appreciation goes to my lovely wife for her patience, encouragement and support during the times when I was working hard to complete this research project. To my kids, Lame, Oratile, Thero and Loago, I owe you special appreciations for you experienced lack of attentiveness and fatherly love; I thank you for your endurance. Lastly, I would like to express my special thanks to my mother, my siblings and neighbors for your sense of understanding at times when you needed me most but I could not avail myself because of my academic work.

**APPROVAL PAGE**

This research project has been examined and is approved as meeting the requirements and standard of scholarship for partial fulfillment of the requirements of the degree of Masters in Nursing Science.

Supervisor\_\_\_\_\_

Date\_\_\_\_\_

## ABSTRACT

**Background:** Hospitalization of preterm babies in Neonatal Intensive Care Unit (NICU) exposes mothers to critical care environment for as much period as it is determined by the condition of their babies. The purpose of the study is to explore the experiences of mothers about prolonged hospitalization of their babies in NICU in Princess Marina Hospital. **Methods:** The study will utilize a qualitative, explorative, descriptive and contextual design. A semi-structured interview guide will be used as a data collection instrument. Purposive sampling will be used to select mothers of preterm babies whose babies were hospitalized for more than 30 days but not exceeding 60. The demographic data will be analyzed using descriptive statistics while content analysis will be used for the qualitative data. **Plan for dissemination of results:** Information from the study will be disseminated to relevant stakeholders through briefs, conference presentations and publication in relevant journals.

## **HAPTER 1**

### **1.0 Introduction and background**

The birth of a preterm baby constitutes an acute adverse event accompanied by dramatic changes in life patterns of the mother (Alves, Amorin & Silva, 2014). Babies born prematurely, at a gestational age of less than 37 weeks are at increased risk of subsequent adverse outcomes in various aspects of their development which will result in their admission in Neonatal Intensive Care Unit (Kyno, Ravn, Lindemann, Smeby, Torgersen & Gunderson, 2013). Due to the state of prematurity, it is fundamental that preterm babies be hospitalized in NICU because the unit supports the infants' physiologic and neuro-behavioural growth and development (Lantz & Ottosson 2013).

Depending on the babies' gestational age at birth and the medical complications associated with prematurity which more often require critical care to minimize mortality (Linderberg, 2013), hospitalization of preterm babies can take some weeks or months (Jubenville, Newburn-Cook, Hegadoren & Lacaze-Masmonteil, 2012). During the entire period of hospitalization, mothers of preterm babies find themselves having to stay for as much period as it shall be determined by the babies' condition. Mothers of preterm babies, as the primary care givers (Feely, Waitzer, Sherrard, Boisvert & Zelkowitz 2013) will be providing a parental care in a strange and frightening NICU environment (Lasiuk, Comeau & Newburn-Cook 2013).

Previous studies exploring the experiences of mothers whose babies are admitted in NICU have indicated that mothers experience stress associated with the NICU environment (Diffin, Shields, Cruise & Johnston, 2013; Carter, Mulder, Bartram & Darlow 2013). In these studies, the impact of hospitalization of preterm babies on the mothers was not weighted

according to the duration of hospitalization of babies. It was noted that, the longer the babies are hospitalized, the longer the exposure of the mothers to the impacts of hospitalization. However, Jubinville et al, (2012), in their study about symptoms of acute stress disorders in mothers of premature infants indicated that the rates of depression and symptoms of acute stress disorders were similar in mothers at one week and at one month. Mothers experience emotional tension at one week and at a month because preterm birth occurred unexpectedly and it takes a great challenge for the mothers to adapt to the physical environment of NICU following the babies' hospitalization (Malakouti, Jabraeeli, Valizadeh & Babapour 2013). The negative impacts can be exacerbated by the fact that mothers have limited understanding of the medical implications of prematurity, therefore may not understand the benefits of prolonged hospitalization (Chhabra et al, 2014).

The researcher as the clinician has interacted with several mothers whose babies were hospitalized for prematurity in NICU in PMH. On an informal discussion with mothers, they expressed various emotional feelings such as stress, fear, emotional trauma, being overwhelmed, anxiety and homesickness. Similar feelings were reported in previous studies: (Jubinville et al (2012); Erdem, (2010); Bret, Stamszewska, Newburn, Jones, Taylor (2011) and Wigert, Dellenmark & Bry (2013). All these studies acknowledge that admission of a preterm baby in NICU is a challenge and it is emotionally draining to the mothers, however, this was not examined in relation to the period of hospitalization. The physical environment of NICU was amongst the sources of the emotional strain to mothers of babies hospitalized in NICU. According to Hutchison, Spillet and Cronin (2012) mothers feel emotionally challenged when they get into the intimidating NICU environment with a lot of unknown equipment. It is therefore evident that mothers of preterm babies hospitalized in NICU endure various emotional

strains related to the physical environment of the unit. Although numerous studies have been conducted in western countries, they did not reflect certain social, economical, cultural and environmental differences which may influence mothers' experiences in NICU. Therefore, this study intends to explore the mothers' experiences of the physical environment of NICU at Princess Marina Hospital during the prolonged period of their babies.

This study will be conducted in Neonatal Intensive Care Unit (NICU) in Princess Marina Hospital (PMH) in Gaborone, Botswana. PMH is the main referral hospital in the southern region of the country. The hospital has a bed capacity of over 500 beds (Ministry of Health 2010). As a referral centre, the hospital hosts various specialist units including the neonatal intensive care unit. NICU is a technologically well equipped unit where preterm babies spend months to promote growth and development during their extra uterine life (Halla & Brinchmann, 2009). NICU in PMH has the bed capacity of 39 beds. However the unit statistics for the year 2015 has indicated an average admission rate of about 70 neonates per month and having a peak of up to 115 neonates at other months. The unpublished monthly reports for the period between January and May 2015 reflected that 60% of the babies in the unit are preterm babies and their average length of hospitalization is 30 days

The technological equipments in the NICU are put to function by experts such as pediatricians, neonatologists and general nurses. Princess Marina Hospital NICU is staffed with 29 general nurses, 2 specialized neonatal nurses, 1 neonatologist, 3 pediatricians and 8 medical officers. The clinicians are supported by 3 auxiliaries and 3 nurse orderlies. This team of health care providers renders care to babies in NICU and ensures that mothers participate in care of their babies.

### 1.1 Problem Statement

Upon admission of preterm babies in NICU, mothers are confronted with critical care environment and its associated demands. The NICU presents a strange and frightening environment to mothers of preterm babies (Lasiuk et al, 2013). The NICU environment in PMH is hot, has excess lights, special machines and equipments, and is crowded with small and sometimes sick babies, some of them connected to equipments, pipes and wires. The environment is congested with mothers and health personnel and has irritating noise from monitors, mothers and members of staff. The space between infants care beds is approximately fifty (50) centimeters, contrary to the international NICU standards that stipulate that the distance between infant care beds should be a minimum of eight (8) feet (2.4) meters (Standards/Interpretation 2003). The bed spacing may interfere with care provision, parenting and family involvement, and privacy for families.

There is excessive light due to lack of adjustable, framed lights or separate procedure lighting available to each infant care station. Clinical tasks are not grouped to try to balance the need for dimmed ambient lighting, natural lighting and brighter task lighting in the unit (Altimier, Eichel, Warner, Tedeschi & Brown 2004). This turbulent environment, as described by Aagaard and Hall (2008), is one of the factors that influence the mothers' experiences in NICU. Several authors (Arnold, Sawyer, Rabe, Abbott, Gyte, Duley, & Ayers 2013); Diffin, Sheilds, Cruise & Johnston (2013); Borimnejad, Mehrnoush, Sayyedfatemi & Haghani (2011), and Erdem , (2010) have indicated that the physical environment of NICU is stressful to mothers of preterm babies.

Though the authors reflected physical environment as a stressor to mothers of preterm babies, they did not explain the experience of mothers when they are exposed to this kind of environment for a period of 30 to 60 days. It is then assumed that mothers of preterm babies with prolonged hospitalization are exposed to these environmental conditions for as much period as it shall be determined by the babies' conditions. In Botswana, literature search did not yield any studies that explored mothers' experiences with the environmental conditions of NICU during the prolonged hospitalization of their babies. The ability to recognize these mothers' experiences may help health care providers to better manage them during their babies' hospitalization. It is against this background that the researcher explores the experiences of mothers about the physical environment of NICU during prolonged hospitalization of their preterm babies.

## **1.2 Significance of the study**

The significances of the study exploring mothers' experiences regarding prolonged hospitalization of the preterm babies in NICU are as follows:

### **1.2.1 Midwifery education**

The results of this study will assist in identifying content of the neonatal care that needs to be included in curriculum of midwifery. Midwifery educators will utilize the findings of the study to improve the content such that it emphasizes on mothers' experiences regarding prolonged hospitalization of their preterm babies.

### **1.2.2 Midwifery practice**

When health care professionals are aware of factors that influence mothers' experiences, they can promote positive experiences of mothers during care of their babies in NICU. Provision of

appropriate support during hospitalization can reduce emotional feelings such as anxiety and stress. Midwives and nurses will implement strategies that enhance mothers coping with environmental factors that influence their experiences in NICU. Practitioners can use the results of this study to develop appropriate interventions for future NICU mothers during prolonged hospitalization. Guided educational interventions could change their knowledge, behavior and stress levels

### **1.2.3 Policies**

The results of the study may inform the existing NICU guidelines such as the orientation policy such that it comprehensively address strategies that influence mothers positive experiences with the physical environment during prolonged hospitalization of their babies in NICU. Policy makers may be stimulated to develop some guidelines or policies such as noise policy and light regulation policy. Policy makers may be stimulated to develop environmental structures that would promote positive experiences of mothers during a prolonged hospitalization of their babies in NICU.

### **1.2.4 Research**

The results of the study may add new information to the body of knowledge in midwifery research specifically in relation to mothers' experiences regarding prolonged hospitalization. Other researchers may be stimulated by the results of the study to conduct comparative study exploring the experiences of mothers who had prolonged versus those who had short term hospitalization. The study results will be a source of reference to other researchers and consumers of research.

### **1.3 Purpose of the study**

The purpose of the study is to explore the experiences of mothers about prolonged hospitalization of their babies in NICU in Princess Marina Hospital.

### **1.4 Specific Objectives**

The objectives of the study are to;

1. Explore mothers' experiences of the physical environment during hospitalization of their preterm babies
2. Explore ways in which nurses and doctors influence mothers' experiences during hospitalization of their preterm babies.

### **1.5 Research Questions**

1. What are the experiences of mothers about the physical environment of NICU during hospitalization of their preterm babies?
2. What are the ways in which nurses and doctors influence mothers' experiences during hospitalization of their preterm babies?

### **1.6 Operational definitions**

For the purpose of this study, the terms used will be defined as follows:

**Mothers of preterm babies:** First time mothers of babies hospitalized for prematurity in NICU for a period of 30 - 60 days.

**Experiences:** How the mothers feel and what they have learnt together with the events that occurred whilst in the unit which influenced their perceptions and psychological expressions

about the unit. In this study, the experiences are confined to prolonged hospitalization and physical environment.

Prolonged hospitalization: Admitted and managed in NICU for period exceeding 30 continuous days but not more than 60 days.

Physical environment: The surrounding inside NICU which interacts with mothers during care of their babies. This includes the members of staff, other mothers, machines and its accessories and the atmosphere.

Preterm babies: Babies delivered between 28 and 32 weeks of gestation.

### **1.7 Summary**

This chapter provided the introduction and the background information on the mothers' experiences regarding prolonged hospitalization of their preterm babies in NICU. The statement of the problem, justification for the study and the significance of the study were discussed. Furthermore, the chapter provided the aims and objectives the study, research questions and operational definitions for the study. The next chapter presents the conceptual framework for the study and the literature review from developed and developing countries

## **CHAPTER 2: LITERATURE REVIEW**

### **2.0 Introduction**

The chapter presents a conceptual framework that will be used for the study. Secondly, a review of literature on the topic 'mothers' experiences regarding prolonged hospitalization of their preterm babies in NICU in PMH will be discussed. Most of the literature reviews that will be presented are from the western countries where most of the studies have been conducted. The developing countries including Botswana have limited studies regarding the subject under study, hence the proposal of the study so that evidence based information about mothers experience about prolonged hospitalization of their preterm babies. The foreign literature will provide awareness on the experiences of mothers regarding prolonged hospitalization in those countries. The literature review used is for the period between 2004 and 2015 and it is guided by symbolic interactionism as a conceptual framework

### **2.1 Conceptual Framework**

The theory of symbolic interactionism will be used as a framework for the study. The theory is appropriate because it addressed meanings attributed by parents of premature babies to the NICU environment, in the interaction and response context. The symbolic interactionism addresses human interaction with the world around him/her (Blumer 1969). The theory believes that an individual exists through social interaction and the individual's behavior is defined by a reflective social understanding of meanings of internal and external incentives around him. The theory of social interactionism traces its origins to Max Weber who believed that individuals act according to their interpretation of the meaning of their world. The interactionist concept

emerged with the sociologist George Herbert Mead in 1920 who asserted that people's self are social products.

Following the death of Mead in 1931, his former students, John Dewey and others, utilized his class notes and conversations which resulted in the publishing of the book *Mind, Self and Society*, and the book was published by his name. Herbert Blumer, who also happened to be Mead's former student was influenced by the Dewey ideas and further developed and coined the theory of symbolic interactionism in 1969 (Blumer 1969). The basic idea this theory put forward is that people behave based on meaning they have given to them and people learn to interpret and give meaning to the world through interactions with others. The framework proposed that social meanings are produced through the interactive activities of objects, which, in turn, determine their behavior based on their interpretations of the world surrounding them.

Blumer specified three basic premises of theory of symbolic interactionism (Blumer 1969). The first premise is that human's act towards things on the basis of the meanings they ascribe to those things. According to Blumer, things refer to everything that individual may interact with in his world such as physical objects, other human beings, categories of human beings, institutions or any situations that individual encounter in his daily life. The second premise of the theory is that the meaning of things is derived from the social interaction that one has with others and the society. This implies that the kinds of behaviors displayed are the results of particular factors regarded as producing them. The third premise is that meanings are handled and modified through an interpretative process used by the person in dealing with the things she encounters. This means that interpretation is the mediating element between stimulus and human response, and meanings are the action guidelines (da Silva, da Silva, leite, Adegas, Silva, da Silva, 2013).

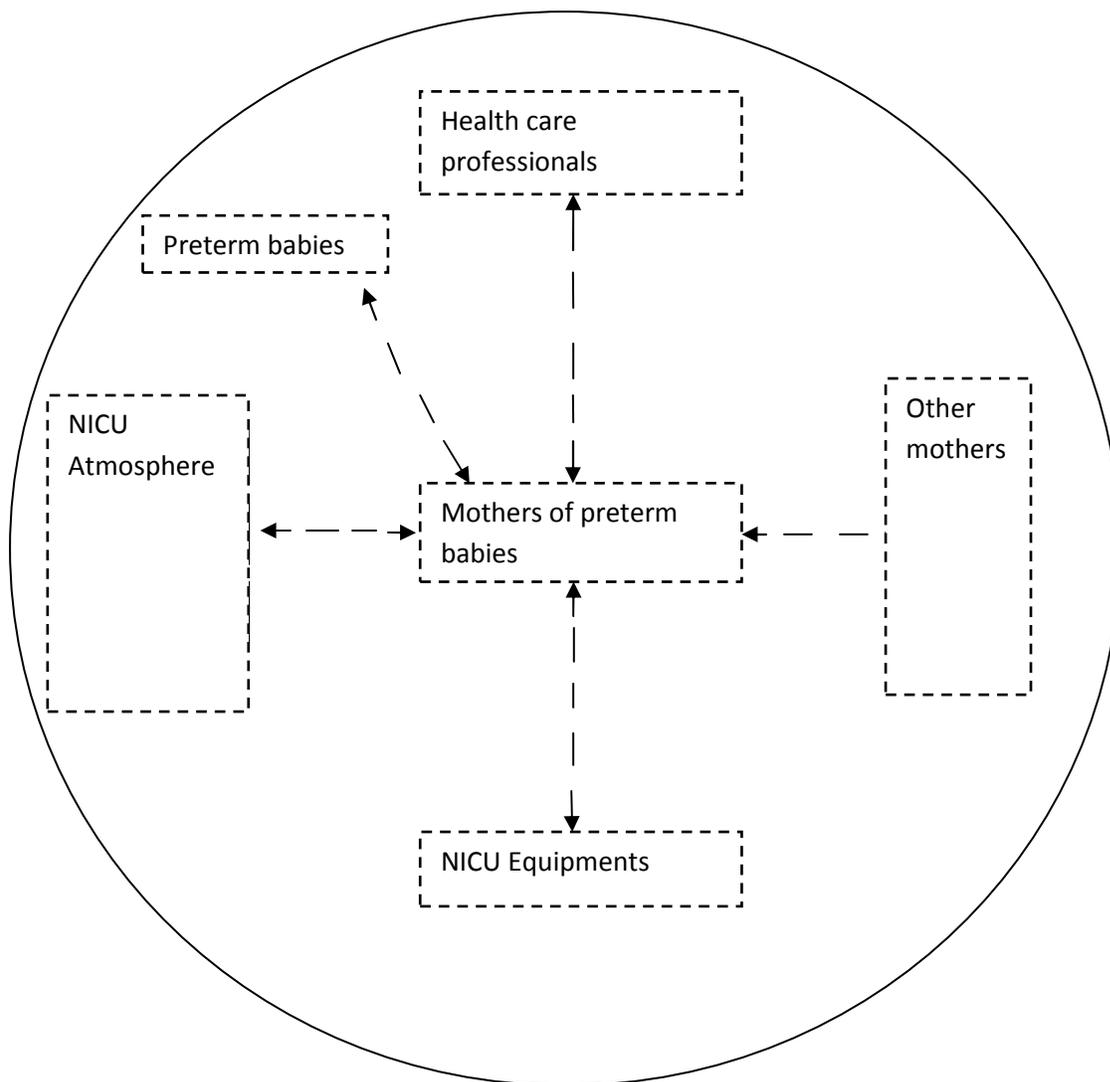
The theory of symbolic interactionism proposed that humans exist in action and that action is mainly the interaction with objects (Blumer 1969). This theory proposes that social meanings are produced through the interactive activities of individuals, which, in turn, determine their experiences based on their interpretations of the world surrounding them. According to the theorist, the world is composed of objects and they include anything that can be indicated, pointed or referred. Blumer classified objects into three categories, the physical objects, the social objects and the abstract objects. The physical objects include any material or instrument that can be touched, like chairs or machines. In NICU, some of the physical objects that mothers of preterm babies interact with are the technological devices such as monitors, incubators and cribs (Halla & Brinchmann 2009). The social objects in NICU are humans who are hospitalized babies, mothers and members of the health team and other staff cadres (Mundy 2010). The abstract objects are those with no physical referent and in NICU, they include the warm and noisy atmosphere from support machines (Lasiuk, Comeau & Newburn-Cook 2013). Mothers of preterm babies interact with these objects in the physical environment of NICU.

Meanings are the social products that are formed in and through the defining activities of people during the interaction process (Blumer 1969). The theorist further explained meanings as an expression of constituent elements of the person's psyche, mind or psychological expression. According to the theorist, the constituent elements refer to individual's expressive characters such as sensation, feeling, ideas, memories and attitudes. The meanings of a thing are the expressions or perceptions that are brought into play during the interaction with that particular object. Meanings are expressed in such symbols as words, religious objects and clothing. These symbolic meanings are the basis for actions and interactions (Burns & Groove 2011).

Figure 1 demonstrates the interaction that exists between mothers of preterm babies and the objects in the physical environment of NICU. The interaction occurs between mothers of preterm babies and health care professionals, other mothers of hospitalized babies, the atmosphere of NICU and the equipments as shown in the diagram.

### FIGURE 1: THEORY OF SYMBOLIC INTERACTION: CONCEPTUAL FRAMEWORK

#### The interaction model in NICU



### **2.1.1 Application of theory to the study**

The physical environment of NICU is made up not only by the structural and technological space, but especially by the relational space formed in the inter-subjective interactions between mothers and babies and between them and the health professionals (da Silva et al, 2013).

Mothers of preterm babies, during the period of hospitalization of their babies in NICU, tend to interact directly or indirectly with all these objects on day to day basis. The objects that mothers of preterm babies interact with include social objects, which are preterm babies, health care professional and others mothers of babies hospitalized in NICU. Mothers of preterm babies also interact with the physical objects which are the support machines and instruments, such as monitors, alarms and incubators. The interaction also exists between mothers of preterm babies and the abstract objects such as the atmosphere of physical environment of NICU which is hot and noisy from the buzzing sounds of monitors and voices of mothers and professional staff (White 2011). Lines of communication are open for feedback and interaction between the objects in the NICU environment.

Mothers' interaction with the objects in NICU environment would yield some meanings, which were defined by Blumer as psychological expressions (Blumer 1969). The psychological expressions expected are the mothers' experiences as they interact with the objects in physical environment of NICU. Mothers of preterm babies get exposed to the interaction with the objects of NICU for as much period as it shall be determined by the period of hospitalization of the babies. This study seeks to explore the mothers' experiences regarding prolonged interaction with objects of NICU environment. The theory will assist in exploring the mothers' experiences on the physical environment of NICU. It will also assist in exploring ways in which health care professionals influence the mothers' experiences.

## 2.2 Western Literature

### 2.2.1 Interaction of mothers of preterm babies with preterm babies and NICU atmosphere

According to Davim, Enders and Rosendo da Silva (2010), once the preterm baby is delivered, the mother's joyful expectation of a healthy term baby is transformed into feeling of anguish and uncertainty at the baby's health outcome. The exploratory descriptive study with a quantitative approach was conducted in Januario Cicco University Hospital in Brazil. The aim of the study was to learn about the feelings experienced by mothers while breast feeding their premature babies in a rooming in facility. The participants of the study were women who had given birth to preterm babies and rooming in the facility. Thirty three (33) women participated in the study. Data collection was through structured interview with open ended questions. The researchers obtained ethical clearance from Board of Ethics for Research and the participants of the study provided a written informed consent.

Davim et al, (2010) noted that mothers of preterm babies describe the birth of preterm babies as a thrust into a world of unleashed spectrum of negative feelings that did not allow them to breast feed. The birth of preterm babies brought feelings of sorrow, guilt, disappointments and frustrations. These feelings are attributed to their perception that their babies do not look "physically normal". Mothers have fear of touching and caressing the babies inside the incubators. The anxiety experienced by mothers which is characterized by feelings of tension, anguish and danger contributed to breast feeding problems. Mothers reported fear related to the strange environment and of harming the babies. The feeling of guilt was related to failure to do something that was required during pregnancy that might have affected the babies. Feeling of guilt was further exacerbated by failure to breast feed the babies, secondary to the state of

prematurity which resulted in the sensation of failing to fulfill the parental role. Davim et al, (2010) concluded that emotional feelings such as sorrow, guilt, disappointment, frustration and insecurity should be recognized in mothers of preterm babies because they may impact breast feeding of premature babies.

The strength of this study was the use of the exploratory descriptive methodology. The exploratory descriptive study allowed the researchers to investigate and describe the phenomenon in terms of how it manifested together with its related factors (Polit & Beck 2010). In this Brazilian study, the researchers explored the emotions of mothers while breast feeding their premature babies in NICU. The descriptive aspect of the methodology assisted the researcher to describe the feeling of those emotions. The other strength of the study was the adequacy of the sample size which promoted representativeness of the results (Polit & Beck 2010). The other strength of the study was that the researchers respected human rights, by observing the ethical considerations. The limitation of this study was that it did not reflect the sampling technique used to select the participants.

The study is relevant to the topic under study in that it explores the experiences of mothers of preterm babies during their hospitalization in NICU. The results of the study revealed emotional feelings brought about by the birth of preterm babies and how these feelings were impacted by the physical environment of NICU. From these experiences, it is easy to draw a conclusion that NICU environment may impact the emotional feelings of mothers of preterm babies in the unit. However, in the Brazilian study, the mothers experiences were related to breastfeeding, whereas in the topic under study is related to prolonged hospitalization.

The interpretive descriptive (ID) study by Lasiuk, Comeau and Newburn-Cook (2013) which explored the experiences of preterm birth described the birth of a preterm baby as shattered expectations of a highly anticipated moment of parenthood. The ID study described and interpreted the lived parental experiences of having and caring for a preterm baby in NICU. This study, entitled "Unexpected: interpretive description of parental traumas associated with preterm birth" was conducted in Canada. The aim of the study was to understand parents' experience of preterm birth and the researcher obtained the ethical approval from University of Alberta Health Research Ethics Board and Alberta Health Service Operational Approval. The approvals were obtained through the Northern Alberta Clinical Trials and Research Centre. The participants provided written informed consent.

The study consisted of (14) parents (11 women and 3 men) who participated in face to face or telephone interviews and seven (7) parents (4 women and 3 men) who took part in two focus group discussions. Four (4) of the parents who participated in the focus group discussion also participated in individual interview. The gestational ages of children of participants were between 25 and 36 weeks at birth. Five (5) health care professionals who worked with preterm infants were also interviewed, thus making an overall total of twenty two (22) participants who were recruited to participate in the study using purposive sampling. The data from health care professionals provided the researchers with contextual information about the services provided in the unit and alerted them of the potential issues of concern to parents but it was not included in the analysis of the results.

The conversational interviews were audio-recorded, transcribed and reviewed to ensure clarity and accuracy of transcription. The results of the study reflected that, none of the parents in the study expected that their babies would be born preterm, hence when it occurred, it shattered

their taken for granted expectations of parenting term babies. Having a preterm birth catapulted parents in the unknown world of NICU, which they described as frightening, making them helpless and forcing them to rely on strangers to safeguard the survival of their babies.

According to the parents of preterm babies admitted in NICU, their extreme stress of preterm birth was compounded by the alien NICU environment, which was crowded with strangers and beeping and lighting machines which to them signaled crisis. In the early days after preterm birth, the parents were feeling that their known parental role has faded into the background and their only concern was insecurity regarding the survival of the babies. There were high levels of uncertainty in parents which were precipitated by the babies' unstable health conditions. Factors that facilitated parents' adaptation to the reality of having a preterm birth included their personal and couple resources, the quality of relationship with NICU staff and the availability of social and functional support.

The strength of this study was that the researcher used the most suitable method (interpretive description). Interpretive description represents a blending of hermeneutic practices with qualitative empirical methods. Through hermeneutic practice, the researcher can describe and interpret the individuals' lived experiences in everyday situation and relationship to produce a qualitative portrayal of particular phenomenon or events (Polit and Beck 2010). In this study the researcher described and interpreted the lived parental experiences of having and caring for preterm babies. The other strength of the study was that the researcher observed the ethical consideration throughout the study.

The limitation of the study was that the researchers used a wide range of gestational age of babies whose parents participated in the study (25 to 36 weeks). The babies gestational age has cut across all the sub categories of preterm birth, that is, the extreme preterm babies (below

28 weeks), the very preterm babies (28 to 32 weeks) and the moderate preterm babies (32-36 ) (World Health Organization (WHO ) 2014). According to Corpeleijn et al, 2012), the smaller the gestational age of a preterm baby, the higher the risks of complications associated with prematurity and the longer the possibility of prolonged hospitalization. This variation in gestational age can have an influence in the experiences of mothers having a preterm birth because mothers of smaller infants have significantly higher levels of anxiety than mothers of healthy infants (Al-kour, Khassawneh, Jaradat and Khader 2014). A wide range of gestational age is therefore considered limitations as it has an influence in the study because of the variation in the duration of hospitalization and experience.

The study is relevant to the topic under study in that it explored the parents' experiences about preterm birth. As the parents expressed their experiences they reflected on how the NICU environment influenced their experiences. Though data from health care professionals was not analyzed in the study results, it provided potential issues of concern to parents, thus indicating that health care professionals as part of the NICU environmental factors; may influence the mothers' experiences. The results of the study indicated how parents experienced NICU environment, but did not reflect the influence of a prolonged stay and this is what the topic under study wants to explore. The participants of the study were parents (mothers and fathers), as opposed to the intended study which only focuses on mothers.

### **2.2.2 Interaction of mothers of preterm babies with NICU equipments and health care professionals**

Previous research studies conducted by Al-kour, Khassawneh, Jaradat & Khader (2014) and Malakouti, Jebraeili, Valizadeh & Babapou (2013) explored how equipments and health care

professionals influenced the experiences of mothers in the NICU environment. Al-kour, et al (2014) utilized a quantitative design to assess the effect of admission of the babies to NICU on the psychological functioning of mothers in Jordan while Malakouti et al, (2013) utilized a qualitative phenomenological design to describe the mothers experiences of having a preterm in NICU in Iran. The Jordan study by Al- kour et al had a sample size of 75 mothers of infants admitted in NICU and 75 mothers of full term babies not admitted in NICU. The Iranian study had 20 participants who had experienced a baby hospitalization in NICU. Al-kour et al, (2014) utilized the State-Trait Anxiety Scale, the Edinburgh Postnatal Depression Scale and Socio demographic questionnaire whereas Malakouti et al, (2013) utilized semi structured interviews as instruments for data collection. For data analysis, the two studies used descriptive statistics and Collaizzi 7-steps process respectively.

The results of the two studies indicated that mothers of babies hospitalized in NICU underwent several emotional feelings such as depression, anger, anxiety and loss of self esteem. The mean (+- SD) score of State-Trait Anxiety Inventory Y-1(51.7 +-10.1) for mothers of infants admitted to NICU was significantly higher than the mean score of State-Trait Anxiety Inventory Y-1(41.4 +- 10.1) for mothers of infants born at term and not admitted in NICU (P=0.0005). The level of anxiety was high in mothers of preterm babies hospitalized in NICU and it was brought about by the sophisticated equipment attached to the babies to support their lives. The physical environment was scary and caused feelings of sadness in mothers because the mothers did not know the medical devices like monitors which were attached to their babies. To them, the connection of the devices to the babies indicated worsening of the babies' conditions. In the Iranian study, one mother was quoted saying, "*I like to know what for are these things and how do they work to be sure that my baby's device is working well*" (Malakouti et al, 2013.p. 175).

Another factor that raised emotional feelings of mothers with preterm babies was the inability to interact with their babies. The results revealed that the need for mechanical ventilation, lower birth weight and lower gestational age were the predictors of higher anxiety level and more depression in mothers of infants admitted to NICU. There was no significant association between scores for anxiety and depression and mothers' demographic characteristics such as age, educational level and monthly income. There was also no significant association between scores for anxiety and depression and mothers' obstetric history such as number of live births, number of babies, infants' gestational ages and babies' birth weights.

Mothers felt that they did not have control over their babies' conditions because they were not participating actively in the care of the babies and they only attended to their babies for a short time and were forced leave. This resulted in unstable emotional feelings like fear, feeling of guilt, anxiety and insecurity about the babies feeding times. Though mothers appreciated the care provided by the nurses, they still believed that nurses could not replace mothers.

The strengths of the studies are that appropriate research methodologies were used. Al-kour et al used a quantitative method in which they quantified the level of anxiety and depression that mothers of preterm babies experienced. Malakouti et al used a qualitative method with a phenomenology research tradition which allowed the participants to share their lived experiences about the phenomena (Polit and Beck 2010). Phenomenological design allowed mothers of preterm babies to express their lived experiences about having a preterm baby in the NICU. All the studies had adequate sample size. .

One of the limitations in Malakouti et al (2013) study is that some study participants were mothers who were allowed to stay home and checked their babies through a telephone call. This

indicates that mothers were not in the NICU all the days of their babies' hospitalization and this may have influenced in their lived experiences about NICU. In a phenomenological study, the researcher is expected to validate the results by going back to the participants during data analysis (Polit and Beck 2010), and this is not reflected in the Malakouti et al study, therefore considered a limitation. Though a quantitative methodology is considered appropriately used by Al-kour et al to quantify mothers' experiences in NICU, it could still be a limitation in that mothers were not able to fully express their experiences like they could do in a qualitative methodology. All the studies are relevant to the research topic in that they explored mothers' experiences in NICU. However, all the studies were not addressing the phenomenon of prolonged hospitalization which is the focus of the intended study.

### **2.2.3 Interaction of mothers of preterm babies with the NICU atmosphere**

Upon admission of the baby in NICU, mothers of preterm babies are confronted by the feeling of sorrow, guilt, disappointment, frustration and insecurity (Davim, Enders, Rosendo da Silva 2010). The same sentiment was shared by Heidari, Hasanpour and Fooladi (2013) in their study which explored the parental experiences with the infants cared in NICU. The qualitative inductive content analysis study was conducted in the city of Isfahan in Iran. The researchers used purposive sampling in which 21 participants consented to take part in the study. This included 13 parents, 5 nurses and 3 physicians from NICU. The participants were selected from different districts in the city of Isfahan. The inclusion criteria for the parents were; willingness to participate in the study, having an infant at NICU for at least 24 hours and no record of previous experience with NICU.

Content analysis identified two main categories, mainly the definition of stress and the parents' reaction to stress. The subcategories consisted of misgivings, nervous pressure, imbalance, separation, emotional reaction, psychotic reaction and behavioural reaction. According to the mothers the unexpected hospitalization of their babies following nine months of anticipation to give birth and celebrate new life was the most stressful event. Stress was provoked by anxiety, fear, nervousness and overwhelming sense of restlessness which was brought about by the babies' admission in NICU. A 43 year old mother was quoted saying, "*my heart is not at ease, my thoughts became confused, all I think about at home is my infant in NICU. When I saw my newborn taken to NICU I had a nervous breakdown*" (Heidari et al, 2013, p11). According to the authors, the mothers' stress level doubled in NICU because the atmosphere is unfamiliar to the parents. The health care professionals also acknowledged the stress of mothers of preterm babies. A physician with four years experience in NICU had this to say, "*in the last month of pregnancy a close relationship is established between the mother and the unborn and this relation is disturbed when the infant is transferred to NICU right after birth*" (Heidari et al, 2013,p12).

The results of this Iranian study reflected that, upon admission of infants, some parents behaved irrationally and showed severe emotional reactions by crying, restlessness, physical discomforts and signs of mental instability which was demonstrated by mothers walking to and forth in front of NICU. Mothers who had unplanned pregnancies and could not have abortions felt guiltier than those who wanted babies. The behavioural reactions were demonstrated by mothers' loss of appetite and sleeplessness. The NICU environment raised a feeling of anxiety and agitation to mothers of admitted preterm babies.

The strength of this study is the use of content analysis because of its inductive and deductive process. Through content analysis the researchers were able to identify some themes that described the experiences of mothers regarding admission of their babies in NICU. The other strength of the study is the selection of participants from different districts of the city. Participants from different cities had different socio cultural and economical background which might have influenced the experiences. The sample size was adequate to accord the researcher data saturation.

The technological machines, health care professionals and care givers in NICU directly or indirectly generate noise pollution in NICU (Hunt 2011). Noise pollution is defined as unwanted or disturbing sound (The Environmental Protection Agency 2011). Darcy, Hancock and Ware (2008) conducted a study to examine the baseline acoustic environment in several mid-Atlantic region NICUs and investigated the perceived factors contributing to noise levels in those NICUs. The exploratory descriptive study utilized mixed methods approach. A quantitative method was used to collect data on sound level and a qualitative method was used for interviewing nurses to examine perception of factors contributing to noise in the unit. The results indicated that noise levels in NICU were higher than the recommended 45 decibels and often exceeded the recommended maximum value of 50 decibels in more than 10% of the time. The authors concluded that the elevated sound levels in NICU need to be controlled. Noise pollution should be controlled because it is related to various health problems such as increased blood pressure, stress, speech interference and sleep deprivation (Hunt 2011). Uncontrolled noise can create frightening feelings in mothers (Linderberg and Ohrling 2008). Mothers get frightened because to them every beep of a life support machine may signal a crisis to the babies (Lasiuk et al, 2013).

#### **2.2.4 Interaction of mothers of preterm babies with other mothers**

Preyde and Ardal (2003) conducted research study on the effectiveness of a parent “buddy” program for mothers of very preterm infants in a neonatal intensive care unit in Toronto, Canada. The purpose of the study was to evaluate the effectiveness of parent buddy program as a hospital intervention for parents of very preterm babies in alleviating stress, anxiety and depression and providing the social support. The research used a cohort study design with a control group for comparison purposes. Eligible mothers for participation in the study included those who had a singleton or twin preterm birth which occurred before 30 weeks gestation or the baby had a birth weight of less than 1500 grams. Babies had to be less than 10 days old and not having any complication that could compromise the chances of survival at 72 hours. In the study, mothers were the primary caregivers of the babies during the period of hospitalization.

Both mothers and infants in the two groups received their usual medical treatment and social work services. Mothers in the intervention group participated in a support program whereas those in the control group did not receive any peer support intervention. The support program consisted of educational parental support meetings and parent buddy program which consisted of individual parent to parent support. The buddies were parents who had adjusted to the previous experience with the NICU and were providing support to mothers with preterm babies in the NICU, primarily through telephone conversations. Buddies had undergone 5 hours training session to enhance their communication skills and self awareness and recognition of the boundaries of offering support. Within a week following the delivery of preterm babies, mothers were asked if they liked to be connected to buddies. Concerted parents were matched with buddies based on the similarities in the babies’ medical condition, language, ethnic background

and where possible geographic proximity. Ethical approval was obtained from the relevant review boards at the hospital.

The State Anxiety Inventory (SAI) was used to measure the state of anxiety and the Beck Depression Inventory (BDI) was used to measure symptoms and attitudes of depression. Mothers were asked to complete the SAI and BDI at baseline (4 weeks) and at 16 weeks after enrolment. The multidimensional Scale of Perceived Social support was used to measure the perception of support rather than the actual support. The scale was used for both the intervention and the control group. The Trait Anxiety Inventory was used to assess the similarity between the 2 groups in terms of how prone they were to respond to stressful events with anxious reaction. The sample size was calculated for each 4 outcome measures used in the study, resulting in 25 subjects required in each group. Data collection occurred in the hospital at baseline by telephone and by mail at 16 weeks after enrolment. Mothers were asked to complete the SAI and BDI at baseline and at 16 weeks enrolment. The researchers used t-test and  $\chi^2$  test to analyze baseline data. The outcome data were analyzed on intention to treat analysis of covariance, with pretest scores entered as one covariate and one baseline difference as a second covariate.

The results of the study indicated that, of the 24 mothers in the intervention group who completed the evaluation form, 21 (87.5%) indicated that their buddies were very helpful or helpful. Two (2) mothers reflected no difference and 1 mother reflected the buddy to be unhelpful. Mothers who participated in the parent buddy program reported less stress, anxiety and depression than mothers in the control group. Mothers indicated that interaction with their buddies helped to reduce their feeling of isolation, provided validation of their emotional experiences and understanding and helped to normalize the situation. The therapeutic effect may be due to empathetic understanding provided by the buddies at a time when mothers were

experiencing considerable stress. Most mothers relied on telephone support because it permitted spontaneity to contact in terms of need especially that the health status of the preterm babies fluctuates.

The strength of the study is that the researchers observed ethical considerations. The other strength is that the evaluation of mothers' experiences was done at the baseline (4 weeks), and at a later period (16 weeks) when the mother had received numerous supports activities from buddies. Through this time of the babies' hospitalization, the mothers had seen the fluctuating preterm babies condition which required buddies' intervention. The other strength of the study was that the buddies had undergone a 5 hours induction training which assisted in enhancing their communication skills and recognized their boundaries of offering support which promoted reliability of results. Matching the parents with the buddies based on similarities was also considered a strength because this facilitated the support service provided as guided by the buddies' experience. Though there was attrition in the number of participants between the 2 groups after 16 weeks enrolment, the difference was not statistically significant.

The limitation of the study is that it was not reflected how the parents of preterm babies were trained to complete the SAI and BDI at 4 and 16 weeks respectively. Lack of training of participants on documentation may influence the reliability of the results. The other limitation of the study was that, it was conducted in only one city. This limited the diverse socio cultural influences that could come from other places.

## **2.3 Regional literature review**

### **2.3.1 Interaction of mothers of preterm babies with health care workers**

Mbwele et al, (2013) conducted a cross sectional study on mothers' perspective and experiences in neonatal care using qualitative and quantitative approaches that aimed to describe the quality of neonatal care in Kilimanjaro. The study was conducted in all the 7 districts in the region and the researchers used purposive sampling to select 13 peripheral hospitals and a tertiary hospital. Mothers of the sick neonates admitted in NICU were cross sectionally selected and recruited in the cluster of the hospitals selected. The clusters were referred to as peripheral and referral hospitals. Ethical approval was obtained from the relevant review boards and written informed consents were obtained from the mothers. Hundred and twelve (112) semi structured interviews were done. Quantitative data was analyzed in STATA version 10 (STATA V 10Statacorp, TX, USA). Chi – square was used to test the significance of difference between maternal socio-demographics, level of satisfaction with care, delays in care and identification of illness between mothers enrolled in peripheral facilities versus those enrolled in the zonal referral hospital.

The quantitative results of the study related to the interaction between mothers and health care workers revealed that, the support and the friendliness of the health care professional differed according to the two clusters of hospitals. There were 3 mothers at the peripheral centre (3.7%) and 1 mother at the referral hospital (3.3%) who referred to the service provided as not supportive at all. Fourteen mothers at the periphery (17.5%) and 5 mothers from the referral hospital (16.6%) referred to the service as partly supportive. Mostly supportive was cited by 27 mothers at the periphery (33.8%) and 6 mothers at the referral hospital (18.7%). Thirty six

mothers (45%) at the periphery centre and 18 mothers (56.3%) at the referral hospital referred to the services as very much supportive.

When mothers were asked about the amount of time spent with doctors consulting the babies, the results indicated that 72 mothers (90.6) were not satisfied with the time spent by the doctors to see their babies. Thirty eight of 80 mothers (47.5%) from the periphery centre reflected that there was too little or no opportunity to ask health care workers questions about their babies. Higher satisfaction was recorded on mothers at the referral hospital, with 28 of them (87.5%) reporting that there was enough opportunity to ask questions.

The qualitative results indicated that the majority of the mothers (52.4%, n=105) in the peripheral hospital were concerned that there was a need for improved performance and care given by health care workers. Some mothers in the periphery (74.4% n=55) indicated that they wished the health care workers could provide more frequent visits to the babies or to be nearer to the babies. One, 28 years old mother was quoted saying "*Nurses and doctors need to be close to mothers and babies, I think medical checkup should be done every day*" (Mbwele et al 2013). Mothers were also concerned about the attitudes, impolite personality and lack of proper explanation to mothers by health workers. From the referral hospital, 37 mothers (16.2%) recommended improved performance from health care workers.

Regarding health education, mothers in the peripheral facilities (13.3) expressed concern that they received little or no education from the health workers on care of the baby or about the illness of the baby. The 20 years mother who was not told the diagnosis of the baby was quoted saying "*they did not explain my baby's problem and I was not taught how to take care of my*

*baby at home*” (Mbwele et al 2013). Mothers also indicated that the attitudes of health care workers affect their learning because they sometimes get furious when asked questions.

Pertaining to the interaction of mothers with NICU equipment, mothers in the peripheral facilities (4.8%) were concerned about shortage of equipment and space. Many mothers at the referral hospitals (45.9%) were concerned about facility shortages. Mothers were concerned that the rooms were very hot. When asked her opinion about the situation, a 22 years old mother had this to say, *“I wish to see an increase in the number of wards, rooms and beds in this facility”* (Mbwele et al, 2013). Mothers in the peripheral facility (2%) were concerned about the hygiene in the unit. Mothers recommended that the level of hygiene in the facility should be increased.

The strength of the study is that the researcher obtained research permits from the relevant review boards and written consents were obtained from the mothers. The other strength of the study was the researchers' ability to use both the qualitative and quantitative approaches. The two methods complement each other, thus enhancing validity of the results (Polit and Beck 2010). The other strength is that the researchers analyzed the results comparatively between mothers who enrolled in peripheral facilities and mothers enrolled in referral hospital. This assisted the researcher to identify the dimensions that exist between the peripheral and referral hospitals. The study is relevant to the topic under study in that it assessed the mothers' experiences of neonatal care. The study reflected some objects that mothers interact with during the period of their babies' hospitalization which included health care workers and facility space and equipments.

## 2.4 Local literature review

### 2.4.1 Interaction of mothers of preterm babies with their preterm babies, NICU equipments, members of staff and other mothers

Ncube (2011) conducted a qualitative, exploratory contextual study to explore and describe the lived experiences of mothers regarding care of their hospitalized preterm babies. The study which utilized a phenomenological approach was conducted in Special Care Baby Unit of Princess Marina Hospital in Gaborone City, in Botswana. The objectives of the study were, (i) to describe the experience of mothers who are separated from their vulnerable/sick preterm babies, (ii) to explore the mothers' experiences of interaction with preterm babies within neonatal environment, (iii) to describe the experience of mothers from their perspective of mothering in neonatal unit. Data Collection was done through in-depth interview to mothers whose preterm babies were hospitalized in the unit. Data analysis was done according to the steps for analyzing phenomenological transcriptions.

The results of the study indicated that, mothers were shocked by the unexpected birth of their preterm babies. Mothers were frightened by the small size of the baby and were scared that the babies will not survive. One mother was quoted saying, *"Mmm! The baby was too small ... you could not believe that he will survive for a longer time. I used to see babies but I never saw a baby born that small. I was wondering how this one is like, wondering whether he will survive or not."* (Ncube 2011, p. 59). Fear and anxiety was exacerbated by the environment of neonatal unit which also interfered with bonding between mothers and babies. The environment was unfamiliar and intimidating to the mothers because of strange equipment which were attached to the small babies. One participant had this to say *"You know where those babies are ... isn't it*

*when you get there, you do not know the equipment, where the baby is and where the baby is kept. When you get there, the first thing that frightens you is the machine that the baby will be kept in, as it alarms since you will be wondering what is happening, you see.”*(Ncube 2011, p 62).

Mothers of preterm babies reflected that they overcame fear because of the support they got from members of staff and other mothers in the unit. The support they got enabled them to bond with preterm babies and cope with the challenges they faced while in NICU. One participant was quoted saying, *“She then comforted me and told me to focus on the now and forget about the past. She said we should focus on the positive side and hope that the baby will be well. I felt better after talking to that nurse on the twenty-seventh”*. (Ncube 2011, p 69).

Mothers of preterm babies were reassured and comforted by other mothers in the unit. The support from other mothers assisted mothers of preterm babies to establish rapport with their preterm babies. The other participant was quoted saying; *“Some mothers who were there are the ones who comforted me by saying please, touch him, kiss him. I started touching his legs and toes”*

Some mothers reflected that at times they had experienced negative interactions with members of staff. Mothers were feeling that they were not provided with sufficient information and this affected their interaction with their babies. The poor interaction between staff members and mothers resulted in mothers not trusting some members of staff and they reported this to be undermining their confidence of caring for their preterm babies. One mother was quoted saying, *“Hei! Myself I don’t think there is any interaction ... well this one and that one because we are from different families. Some would go ... and would come with their moods from home.”* (Ncube 2011, p. 69).

The strength of this study is that the researcher used the appropriate research approach to conduct the study. The phenomenological approach is fundamental when the study explores the peoples' lived experience (Polit and Beck 2010) which was the case in the study. Through phenomenology, the researcher understands fully lived experiences and perceptions as expressed by the participants. The other strength of the study is the adequacy of the sample size. Though in qualitative research, the sample size is determined by data saturation (Burns and Groove 2011), in phenomenological studies, the sample size should be small, often 10 or fewer (Polit & Beck 2010). In Ncube's study the number of participants was 9. The other strength of the study is the use of appropriate data collection method. The researcher used in-depth interview which is rightfully used in phenomenological studies (Polit & Beck 2010).

The limitation of the study was that, the interviews were conducted in Setswana language and had to be translated into English. It is believed that this can have an influence in the interpretation of the results due to loss of data. The other limitation of the study is that the researcher was not specific to any class of preterm babies. It is believed that the experiences of mothers would be influenced by the level of prematurity of the babies. Mothers of extreme preterm babies may not express the same experiences as mothers' of late preterm babies because the mortality and morbidity in prematurity is influenced by the gestational age of the preterm baby at birth (Johnson, Odesjo, Jacobsson, Sandberg & Wennerholm 2008). The other limitation is that the researcher was not able to return back to the participants to validate the study results. According to Polit and Beck (2010), in case where the researcher used Collaizzi's method of data analysis, he has to go back to the participants to confirm and validate the results.

The study is relevant to the topic under study in that it explores the mothers' experiences regarding care of their preterm babies. The study reflected the interaction of mothers of preterm

babies with the NICU environment that yielded their experiences about the unit. The occupants of the NICU environment (members of staff, other mothers, preterm babies, equipments in NICU) were influential to the mothers' experiences.

### **2.5. Summary**

The literature review by Heidari, Hasanpour and Fooladi (2013), Davim, Enders and Rosendo da Silva (2010), Preyde and Ardal (2003), Ranchod et al (2004) and Ncube (2011) revealed that mothers of preterm babies tend to interact with the NICU environment during the period of their babies hospitalization. The interaction occurs between mothers of preterm babies and other mothers in the unit, members of staff, equipments and preterm babies. The kind of interaction that occurs between mothers of preterm babies and the physical environment of NICU influences their experiences. According to these authors the interaction of mothers with NICU environment yields various emotional experiences such as fear, anxiety, depression and intimidation. Most of the studies cited were conducted in developed countries and the one conducted in Botswana was exploring mothers' experiences regarding care of their babies. None of these studies reflected the experiences of mothers of preterm babies when they are in exposed for a prolonged period in the NICU environment. This is the reason why the topic under study aims at exploring the experiences of mothers of preterm babies regarding prolonged hospitalization of their babies in NICU. The next chapter presents the methodology to address the objectives of this research essay.

## CHAPTER THREE: METHODOLOGY

### 3.0 Introduction

This chapter presents the study design, the setting where the study will be conducted, the sampling plans and ethical considerations. Data collection methods, establishing rigor, methods of data analysis will also be presented.

### 3.1 Research design

The study will utilize a qualitative, explorative, descriptive and contextual design to explore and describe the mothers' experiences regarding prolonged hospitalization of their babies in NICU in Princess Marina Hospital. A qualitative research is a subjective research approach used to describe life experiences and give the appropriate meaning (Burns and Grove 2011). Qualitative researchers are interested in gaining insight and understanding phenomena in a particular situation. The researchers understand the individuals' perception of events as they see, think or conceptualize them (Nieswiadomy, 2008). According to this author, the qualitative researchers attempt to collect rich, real, deep and valid data which gives in-depth descriptions of people or events. Qualitative research is interested in discovering common emergent themes using an inductive approach and the researcher is not limited by any existing theory but rather open to new ideas and new theories (Nieswiadomy, 2008). The qualitative researcher usually collects data in a real world, social and naturalistic setting (Polit and Beck 2012).

In general, the purpose of qualitative study is to observe, explore and describe phenomena or events. The intended study will also use the qualitative approach to explore and describe the mothers' experiences regarding prolonged hospitalization of their preterm babies. The phenomenon of prolonged hospitalization can be expressed subjectively; therefore the study

would capture mothers' unique conscious subjective experiences regarding prolonged hospitalization of their preterm babies in NICU.

### **3.1.1 Exploratory**

Exploratory studies investigate the full nature of the phenomenon and how it manifests its related factors together with its causative factors (Polit & Beck 2010). The authors explain that the design can be used to explore the full nature of a phenomenon when little or no knowledge is known about it. The intended study is exploratory because it explores the mothers' experiences regarding prolonged hospitalization of their babies and how the physical environmental factors of NICU influence their experiences. Literature search revealed no studies regarding mothers' experiences regarding prolonged hospitalization of their preterm babies in Botswana, therefore little is known about this phenomenon.

### **3.1.2 Descriptive**

Descriptive studies provide a comprehensive information about the characteristics of a phenomenon as it naturally occurs (Burns & Groove 2011). Prolonged hospitalization is a specific phenomenon on which the researcher would like to describe and it can be best described better in words than in numbers.

### **3.1.3 Contextual**

The study is contextual in that it is conducted in a referral hospital in an urban area. The rural urban migration that existed after Botswana's first independence has made the city a multi ethnic society (Lubinda 2010). The referral hospital receives patients from all areas in the southern part

of the country. Therefore, the researcher intends to explore mothers' experiences regarding prolonged hospitalization of their preterm babies in NICU in the referral hospital in the city.

### **3.2 Setting of the study**

The study will be undertaken in Princess Marina Hospital in Gaborone City. Gaborone City is the capital of Botswana and it is situated in the south east region of the country. According to the Central Statistics Office (2011), Gaborone City had a population of 231 626, of these, 113 603 were males and 118 023 were females. The city is composed of people from different cultural backgrounds. Though Setswana and English are the official languages in Botswana, the country is multilingual due to different ethnic groups. However, the national and mostly spoken language in Gaborone City is Setswana. Gaborone city has 12 government health clinics, two private hospitals, several private health clinics and one referral hospital (Government of Botswana 2011). All local government health clinics and other hospitals in the southern part of the country refer complicated cases to the main referral hospital Princess Marina Hospital (PMH), where the study will be conducted.

#### **3.2.1 Profile of the institution**

The study will be conducted in Princess Marina Hospital in Neonatal Intensive Care Unit (NICU). PMH is the main referral centre in the southern part of Botswana. The hospital has a bed capacity of 500 beds (Ministry of Health 2010). The hospital provides preventive, curative and rehabilitative services. The NICU in PMH provides neonatal intensive care services to neonates delivered in the hospital and those referred from the referring centers. The bed capacity of NICU is 39 beds. Within the NICU, there are preterm babies who require intensive care and those who are kept for rehabilitative services to promote growth and development. Data will be

collected from mothers of preterm babies whose babies were hospitalized for period exceeding 30 continuous days but not more than 60 days.

### **3.3 Population**

Burns and Grove (2011) defined population as a particular group of individuals who are the focus of research. The population forms a well defined set composing of certain specified properties (LoBiondo-Wood & Haber 2006). In this study the population will be mothers of preterm babies admitted in NICU in PMH.

#### **3.3.1 The target population**

The target population is the entire population which the researcher is interested to study (Polit & Beck 2010). The target population should meet the sampling criteria such that the researcher can do generalization of the results of the study (LoBiondo-Wood & Haber 2006). In this study, the target population will be mothers of preterm babies whose babies have been hospitalized in NICU for a period of 30 days but not exceeding 60 days. After 30 days of life, the baby has graduated from neonatal period and transited to infancy period. Preterm birth is the leading cause of neonatal death and a majority of these deaths occur at the neonatal period because of serious complications of prematurity prevalent at this time period (Blencowe et al, 2010). Preterm babies tend to stabilize after 30 days and remain to be managed in the NICU to attain full growth and development. Mothers of preterm babies hospitalized for a period between 30 and 60 days have had experience of nursing their babies at the critical neonatal period and now continuing to care for the baby when they have stabilized. After 60 days of life, most preterm babies have reached full growth and development and stabilized such that they may be discharged home. The target population of this study is therefore mothers who have had experience of nursing the

preterm babies at the critical state of neonatal period and now nursing the babies at post neonatal period but not yet fully recovered to be discharged home, that is between 30 and 60 days.

### **3.4 Sampling**

Sampling is the process of selecting a subset of the chosen population to represent the entire population (LoBiondo-Wood and Haber 2006). In the study, purposive or judgmental sampling will be used to select the informants of the study. In purposive sampling, the researcher uses his knowledge about the population to hand pick the sample members (Polit & Beck 2010). The non probability sampling method is often used by the qualitative researchers to choose the sample that will provide in-depth information needed for the studies (Burns & Grove 2011). The researcher selects informants that are knowledgeable enough about the issue under study to inform the research question (Polit & Beck 2010). Purposive sampling is appropriate to use in this study because the researcher will select mothers who have had the experience of nursing their preterm babies in NICU for a prolonged period between 30 and 60 days. Mothers will be able to provide their in-depth experiences which will be essential for the study. Diverse information from mothers regarding prolonged hospitalization of their babies in NICU will contribute towards answering the research questions.

#### **3.4.1 Sample size**

Sample size in qualitative research is determined by information needs which are guided by data saturation (Polit & Beck 2010). These authors continued to explain that in qualitative studies, a small number of participants are involved and usually never exceed ten (10). In this qualitative descriptive study, the sampling will be terminated when no more new information is obtained, thus level of saturation being achieved.

### **3.4.1.1 Inclusion criteria**

To qualify for participation in the study, the participants should;

- have the baby admitted in NICU for a period of 30 to 60 days.
- Be a first time mother. First time mothers are the ideal participants as they do not have any previous experience which may be confounding to their experiences.
- have a baby in a stable condition and not undergoing any kind of resuscitation
- be able to communicate using Setswana or English.

### **3.4.1.2 Exclusion criteria**

The exclusion criteria will involved

- Mothers whose babies were readmitted in the unit following a discharge
- Mothers who delivered at home or before arrival in the health facility
- Mothers whose preterm babies have a congenital abnormality

## **3.5 Ethical Considerations**

Ethical considerations focus on the protection of rights of human subjects participating in the study. The researcher will ensure that procedures for protecting basic human rights are observed before the research study is approved and during implementation which include;

### **3.5.1 Permission to conduct a study**

Permission to conduct the study will be sought from the Health Research Unit in the Ministry of Health and Princess Marina Hospital Institutional Review Board (Refer to Appendices 1 and 2.

### **3.5.2 Informed consent**

Informed consent means the right of prospective participants to be given adequate information regarding research, ensuring that they have comprehended the information so that they can voluntarily choose or decline participation (Polit & Beck 2010). The prospective informants should be given liberty to decide to participate in the study without any coercion. In observing the prospective participants right to informed consent, the researcher will start by introducing himself as a Masters Student from the University of Botswana who intends to conduct a research project as an academic requirement. I will explain to the participants that the purpose of the study is to explore the experiences of mothers about prolonged hospitalization of their babies in NICU in Princess Marina Hospital (Refer to Appendix 5). The researcher will explain to prospective informants that they will not benefit directly by participating in the study, but the study results may influence policies regarding prolonged hospitalization, thus benefiting the future consumers of care. The participants will be assured that participation in the study is voluntary and their participation in the study will not put them at any risk. I will explain to the participants that even after consenting to participate in the study, they can withdraw at any time without any penalty. The participants will be informed that the interview will last approximately 30 – 45 minutes. The explanations given to prospective participants will be presented using the understandable language to them. A consent form written in language understandable to the participants will be provided to them to sign as a proof of consent for participation in the study.

### **3.5.3 The right to self determination**

The right to self determination means that the prospective participants have the right to decide to voluntarily participate in the study without risking any penalty (Polit & Beck 2010). The prospective participants should exercise her autonomy in decision making to choose to participate in the study without any influence from external controls (LoBiondo-Wood & Haber 2006). The prospective participants will be made aware that they will not be rewarded for taking part in the study. It will be explained to the prospective participants that during the interview, they have the right to ask questions or to refuse to give information on questions that they are not comfortable with. Further, it will be explained that the information given will not in a way be used against them.

### **3.5.4 The right to confidentiality and privacy**

Confidentiality refers to the ability of the researcher to manage private information provided by the research participants (Burns & Grove 2011). To observe this ethical principle, the researcher will explain to the participants that the audio taped data will be kept under lock and key so that it is not accessible to unauthorized persons.

The right to privacy is the participants' freedom to determine the time, extent and general circumstances under which the information they have provided will be shared or withheld from others (Burns & Grove 2011). Privacy will be maintained by conducting interviews in a private room and people will be restricted during the interview session. As a way of restricting movement in the interview room, a note indicating "don't disturb, interview in progress" will be pasted on the door.

#### **3.5.4.1 Anonymity**

Anonymity refers to the ability to protect the identity of the participant such that it cannot be linked even by the researcher with her responses (Burns & Grove 2011). To observe this ethical principle code numbers will be used instead of the participants' real names. Furthermore, the audio recorder which will be used for recording the interview will only be switched on after introductions.

### **3.6 Procedure for data Collection**

Procedure for data collection entails recruitment of study participants and instruments for data collection.

#### **3.6.1 Recruitment of study participants**

Following the approval of the research proposal by the relevant authorities, the researcher will visit the study setting to work on the logistics of recruiting the participants. Before the recruitment of participants is done, the researcher will introduce himself to the relevant authorities of the hospital, which are the Hospital Manager and Chief Nursing Officer. The researcher will then visit the unit where the study will be conducted to introduce himself to the Principal Nursing Officer, Chief Medical Officer in-charge of the Unit and the members of staff. The purpose of the study will be explained to all appropriate personnel so that they can appreciate the study. Through introduction, the researcher will establish rapport so that he can be supported during the period of study. The researcher will request to access the patients' records so that he can identify mothers of preterm babies who had been nursing their babies in NICU for a period of 30 days but not exceeding 60 days. Flyers will be developed and distributed to the prospective informants so that they can read for themselves before they meet the researcher. Some flyers will be a posted in the notice board as a way of promoting accessibility of

information to the prospective informants. Mothers who meet the inclusion criteria of the study will be requested to meet the researcher individually in a private room requested. During the meeting, the researcher will introduce himself to the prospective participants as a Masters of Nursing Science student from the University of Botswana who intends to conduct a study regarding the experiences of mothers regarding prolonged hospitalization of their preterm babies in NICU. The purpose of the study will be explained in detail to the prospective participants. It will be explained to the prospective informants that the interview session will take approximately 30 – 45 minutes. The prospective informants will be made aware that the audio tape recorder will be used and the researcher will be taking some notes during interview. Mothers who consent to participate in the study will be recruited and will be informed of the date and time for data collection.

### **3.6.2. Instrument for data collection**

The researcher will use face to face interview as a method of data collection. The semi-structured interview guide designed by the researcher will be used to explore the mothers' experiences regarding prolonged hospitalization of preterm babies in NICU. The development of the interview guide was guided by the conceptual framework used and the literature review (Refer to Appendix 4). The interview guide will be developed in English and will be translated to Setswana with the assistance of language experts. The translated version will then be back translated to evaluate the equivalence of meanings between original and the target texts. This will promote quality and give accurate depiction of the exact meaning of the translation in the target language. According to Polit and Beck (2010), semi- structured interviews are used when the researcher has a list of questions that he intends to address in an interview. Semi structured interview allows the participants to express themselves freely about the questions presented by

the researcher on the interview guide (Polit & Beck 2010). The interview guide is comprised of open ended questions with probes which will allow the informants to express themselves in their own words, consequently the researcher's areas of interest will be covered.

### **3.7 Testing of the instruments**

Pilot study is a small scale of a study the researcher intends to conduct (Burns & Grove 2011). It is conducted to determine whether the intended study is feasible, to identify any problem with the design and to give the researcher the experience with the participants, setting, methodology and methods of instruments. Furthermore, the pilot study will assist the researcher to evaluate the clarity of questions. After receiving permission from the relevant authorities to conduct the study, the researcher will conduct a trial run of data collection instruments among five mothers of preterm babies admitted in Princess Marina Hospital NICU for a period of 30-60 days. The pilot study will be conducted on mothers using the same inclusion criteria to the sample of the intended study so that he can evaluate the reliability of the research instrument. Using Princess Marina NICU would assist the researcher to establish rapport with unit staff and to get orientated to the setting.

### **3.8 Data Collection**

The researcher will conduct the interviews in a private room that will be provided by the unit. It will be ensured that the room is comfortable in terms of warmth, adequate light and good ventilation. For the purpose of confidentiality, a sticker indicating that there is an ongoing interview will be pasted on the door. Rapport will be established between the researcher and the participants by starting the conversation greetings. This will ease anxiety on the side of the participant and build a trusting relationship between her and the researcher. The researcher will

be conducting the interviews and on the other hand recording the interviews using an audio recorder. The researcher will begin the interview by asking a broad grand tour question which will then be followed by probing questions (Refer to Appendix 5). The researcher will use the informant's responses to guide data collection through probing questions to gather adequate information. Interviews will be conducted in Setswana.

During the interview, the researcher will capture some reflective notes which will be used to inform data analysis and facilitate the rich description of mothers' experiences. The reflective notes documents the progress in the field (Polit & Beck 2010). Reflective notes will be conducted in an unobtrusive manner so that there is flow in participants' conversation. The researcher will clarify any questions in case the participant shows lack of understanding. The researcher will take control of the interview such that he will be able to intervene when need be such as when the participant goes astray or dwell much on the information not related to the phenomena under study. Interviews will be terminated when data saturation is reached.

### **3.9 Data management**

The data collected through audio recorder and the field notes will be kept safely in a locked cabinet such that unauthorized individuals cannot access it. Data recorded as reflective notes will be transferred to a word processing programme such that it can be stored electronically. Data will be stored electronically where it can only be accessed through a password only known to the researcher. Data will be stored for a period not exceeding three years after conclusion of the study but may be extended by the faculty supervisor in agreement with the researcher. The data will ultimately be destroyed when the period ends. The hard copies will be shredded and the

electronically stored data will be deleted. The researcher will ensure that data is deleted even on the recycling bin.

### **3.10 Preparation for data analysis**

Data will be prepared for analysis by translating interviews which were conducted in Setswana into English language. Back translation will be done to evaluate the equivalence of meanings between original and the target texts. The researcher will request for the assistance of language specialists during translation. During the process of translation, there may be some Setswana words that lack equivalents in English resulting in misrepresentation of such words or some English words having no known Setswana translation. To prevent alteration in real meanings of those words, the researcher will quote the words as stated or used. The audiotape interviews will be transcribed verbatim by trained transcribers. To familiarize himself with the data, the researcher will read and reread notes and transcripts, listen to audio recordings until he has become immersed in the data. The researcher will then begin to reduce the data according to the concepts within the theoretical framework and attach meanings to elements in the data.

### **3.11 Data analysis method**

Data analysis is a systematic organization and synthesis of data so that it gives the meaning (Burns & Grove 2011). The demographic data in this study will be analyzed using descriptive statistics which is statistics used to describe and summarize data (Polit & Beck 2010). Through Descriptive statistics, the researcher will calculate the averages and percentages of the demographic variables such as age, marital status, level of education and employment status. Content analysis will be used to analyze quantitative data. Through content analysis, the researcher analyses content of narrative data to identify prominent themes and patterns among

the themes using a template or editing analysis style (Polit & Beck 2010). In this study, the researcher will utilize ATLAS ti software programme which assist to organize, manage and code transcript data in preparation for analysis. The process of content analysis undergoes specific steps such as data preparation, unit of data analysis and data display.

### **3.11.1 Unit of data analysis**

Unit of data analysis refers to the basic unit or focus of a researcher analysis as derived from individual words, phrases or entire paragraph (Polit & Beck 2010). In this study, individual words, phrases or paragraphs reflecting the mothers' experiences regarding prolonged hospitalization will be used as units of data analysis to analyze the interview data

### **3.11.2 Data Display**

According to Polit and Beck (2010) data display involves the use of cross tabulations or descriptive summary grid data to analyze data. In this study, the informants will be numbered sequentially in the order that they were interviewed and then plotted along the rows of grid. The coded responses will be listed along the columns of the grid box opposite the appropriate informants. Each column will be summed to determine the occurrence for a particular subcategory. ATLAS ti software programme will be used to count the frequency of every word in a primary document. Common themes will be identified by comparing the responses across the informants.

### **3.12 Establishment of rigor**

Rigor is the credibility and trustworthiness of a research study (Burns & Grove 2011). The qualitative research is considered rigorous if the researcher observed the carefulness during data collection and thoroughness of data analysis. Trustworthiness in qualitative studies is established through observing four (4) criteria mainly credibility, confirmability, dependability and transferability (Lincoln & Guba 1995).

#### **3.12.1 Credibility**

Credibility refers to the confidence in the truth of data and its interpretation (Polit & Beck 2010). Credibility is considered as a primary validity criterion and viewed as an overriding goal of qualitative research. The qualitative researcher strives to carry out the study in a way that would enhance believability of the findings. Furthermore, the researcher should carry out appropriate steps that would demonstrate credibility to the external readers. During data collection, the qualitative researcher should establish confidence in the truth from the participants' context. In this study, the researcher will ensure credibility by collecting data during the time when the participants are still experiencing the phenomena under study. Data will be collected whilst mothers are still nursing their preterm babies in NICU and this will assist them to reflect back and be able to describe their experiences as they occurred. Mothers will be able to explain their experiences, thus enhancing truthfulness of data. During data collection, the researcher will continue to ask probing questions where there is need so as to gain insight into the participants' experiences, thus promoting believability of the data.

### **3.12.2 Dependability**

Dependability refers to the reliability of data over time and conditions (Polit and Beck 2010).

Dependability establishes whether the study findings would be repeated if the study is replicated with similar participants in the similar context. Inquiry audit which is defined by Polit and Beck (2010) as scrutinizing data and relevant supporting documents by external reviewer will be employed to test dependability of data. Verbatim transcriptions and field notes will act as a form of audit trail. Verbatim transcriptions will provide the research participants' expressions and the field notes will contain the researcher's perceptions and ideas regarding mother's experiences. The researcher will also seek the assistance of his supervisor and other qualitative research experts to critically scrutinize and audit the data from research study. Furthermore, peer debriefing done by fellow masters students will assist in reviewing of data for credibility and trustworthiness.

### **3.12.3 Confirmability**

Polit and Beck (2010) defines confirmability as the objectivity and neutrality of data between two or more independent people about the accuracy, relevance and meaning of data. According to these authors, this criterion establishes if the data represents the information provided by the participants and not the biases of the researcher's imagination. To ensure confirmability, the researcher will ensure that the findings of study come directly from the data collected and not from his personal experiences. Confirmability audits will be employed to assess the adequacy of data and preliminary results. The external auditor will then give a feedback to promote further development of stronger and better articulated findings.

#### **3.12.4 Transferability**

Transferability is the extent to which qualitative results can be transferred to other settings or groups (Polit & Beck 2010). The researcher will ensure that this criterion is achieved by purposively selecting the participants who will provide sufficient information about the phenomenon under study. During data analysis and interpretation, the researcher will provide sufficient descriptive data in the research report so that the consumers can evaluate its applicability to other contexts.

#### **3.13 Dissemination of results**

The research findings will be disseminated through briefs in health training institutions, government and private health facilities which provide neonatal intensive care. The findings will also be presented at local, regional and international research conferences. The researcher intends to publish the findings in a relevant journal that addresses neonatal issues.

#### **3.14 Limitations of the study**

The researcher is working on this research project as a part time student and therefore will face a lot of challenges in accomplishing the research work while he has to pursue his professional duties. Another limitation will be related to lack of funds because the researcher's training is self sponsored, therefore without any sponsorship he will struggle to accomplish the research work.

#### **3.15 Summary**

In this chapter, the methodology of the study which included the study design, setting, sampling methods, ethical considerations, recruitment of participants, procedures for data collection and testing the instruments was presented. Methods of data collection and establishment of rigor

collection were also explained. How the study results will be disseminated and the limitations in conducting this research project were also presented in this chapter.

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## **Appendix 1: Request for permission to conduct a study**

School of Graduate Studies

Private Bag 00706

Gaborone

30<sup>th</sup> January 2016

The Principal Research Officer

Health Research Unit

Ministry of Health

Private Bag 0038

Gaborone

Dear Sir \Madam

### **RE; REQUEST FOR PERMISSION TO CONDUCT RESEARCH**

This letter serves to request for permission to conduct a study entitled “mothers’ experiences regarding prolonged hospitalization of their preterm babies in Neonatal Intensive Care Unit in Princess Marina Hospital. I am a Masters Degree student at the University of Botswana specializing in Parent and Child Health Nursing with a focus in Midwifery. The study is conducted to fulfill my academic requirement for the above mentioned degree.

The purpose of the study is to explore mother’s experiences regarding prolonged hospitalization of their babies in NICU. Data will be collected between May and June 2016. The researcher

undertakes to adhere to ethical principles underlying the protection of human participants namely informed consent, anonymity, confidentiality, beneficence and privacy.

The study results will contribute new information to the body of knowledge in midwifery profession. Attached please find copies of the research proposal.

Yours Faithfully

Itshwarelele Ramosukwana

**Appendix 2: Request for permission to conduct pilot study**

School of Graduate Studies

Private Bag 00706

Gaborone

30<sup>th</sup> January 2016

The Hospital Manager

Princess Marina Hospital

P.O Box 258

Gaborone

Dear Sir \Madam

**RE: REQUEST FOR PERMISSION TO TEST THE DATA COLLECTION  
INSTRUMENTS**

This letter serves to request for permission to conduct a pilot study on a research topic entitled “mothers’ experiences regarding prolonged hospitalization of their preterm babies in Neonatal Intensive Care Unit (NICU) in Princess Marina Hospital. I am a Masters Degree student at the University of Botswana specializing in Parent and Child Health Nursing with a focus in Midwifery. In partial fulfillment of the above degree, I have to conduct a research study.

The purpose of the study is to explore mother’s experiences regarding prolonged hospitalization of babies in NICU. The pilot study is conducted to determine whether the intended study is

feasible, to identify any problem with the design and to give the researcher the experience with the participants, setting and methodology. I intend to conduct a pilot study project in April 2016. The pilot study is intended to be conducted among five (5) mothers in NICU with similar inclusion criteria to the sample of the intended study. The researcher will undertake to adhere to ethical principles underlying the protection of human participants namely informed consent, anonymity, confidentiality, beneficence and privacy.

The study results will contribute new information to the body of knowledge in midwifery profession. Attached please find copies of the research proposal.

Yours Faithfully

Itshwarelele Ramosukwana

**Appendix 3: Request for permission to conduct study**

School of Graduate Studies

Private Bag 00706

Gaborone

30<sup>th</sup> January 2016

The Hospital Manager

Princess Marina Hospital

P.O. Box 258

Gaborone

Dear Sir \Madam

**RE; REQUEST FOR PERMISSION TO CONDUCT RESEARCH**

This letter serves to request for permission to conduct a study entitled “mothers’ experiences regarding prolonged hospitalization of their preterm babies in Neonatal Intensive Care Unit in Princess Marina Hospital. I am a Masters Degree student at the University of Botswana specializing in Parent and Child Health Nursing with a focus in Midwifery. The study is conducted to fulfill my academic requirement for the above mentioned degree.

The purpose of the study is to explore mother’s experiences regarding prolonged hospitalization of their babies in NICU. Data will be collected between May and June 2016. The researcher

undertakes to adhere to ethical principles underlying the protection of human participants namely informed consent, anonymity, confidentiality, beneficence and privacy.

The study results will contribute new information to the body of knowledge in midwifery profession. Attached please find copies of the research proposal and a research permit from the ministry of health.

Yours Faithfully

Itshwarelele Ramosukwana

## Appendix 4: Initial Interview Guide

### English version

Code Number .....

Date.....

**Topic:** Mothers experiences regarding prolonged hospitalization of their preterm babies in NICU in Princess Marina Hospital.

**Instructions:** Please indicate your answer by ticking or writing the appropriate answer on the space or box provided.

### SECTION A: DEMOGRAPHIC CHARACTERISTICS

1. **Age** .....

2. **Ethnicity** .....

3. **Where do you stay?** .....

#### 4. Marital status

- Single       Married       Divorced       Widowed
- Others (Specify).....

#### 5. Highest level of educational achievement

- Never attended school  Primary  Secondary  Tertiary; Certificate
- Diploma
- Degree
- Masters
- PhD

**6. Religious Affiliation**

- Nil       Christian       Muslim       Hindu
- **Others (Specify).....**

**7. Employment status**

- Employed       Self employed       Unemployed

**8. Type of employment**

- Full time       Part time

**9. Date of baby's admission to NICU.....****10. Total number of days the baby has spent in NICU .....****11. Total number of days spent in hospital by the mother.....****SECTION B**

1. Please describe for me as thoroughly as you can your experiences in the physical environment of NICU during the entire period of hospitalization.

**Probes**

- a) In what ways did the NICU atmosphere influence your experience?
- b) What have been your experiences regarding the temperature and sounds in NICU?
2. Tell me about your experiences related to your interactions with other mothers in NICU.
3. In what ways did your interaction with other mothers in the unit influenced your experience?
4. In what ways did equipments in NICU influence your experience?

**Probes**

- a) Did you know about some of the equipments you found in NICU?
  - b) Has your baby ever been attached to any equipment in NICU?
  - c) If so, how did that influence your experience in NICU?
  - d) Did that influence your bonding or interaction with the baby?
  - e) How about seeing other babies attached to the equipment?
5. Tell me both your positive and negative experiences (if any) regarding the interaction with your baby.

**Probes**

- a) What did you like during the interaction?
  - b) What did you not like during the interaction?
  - c) How did the condition of the baby influence your experiences?
6. In what ways did nurses and doctors influence your experiences during the hospitalization of your baby?
7. Tell me about your experiences regarding different times of your baby's stay in NICU that is during the first month and the second month.

**Probes**

- a). Did you experience change with times?
8. How often did you visit your baby in NICU on daily basis?

**Probes**

- a) Were you comfortable with the number of times and visits you have just mentioned?

9. What else would you like to tell me about your experiences?

End of interview guide.

Thank you

## DIPOTSO TSA TSHIMOLOGO

**Potsoloso ya setswana**

**Nnomore ya moarabi.....**

**Letsatsi.....**

**Setlhogo:** Maitemogelo a bomme ba bana ba ba tlhaeditseng dikgwedi mabapi le go robadiwa ga masea lebaka le le leele mo lephateng la bana ba ba tlhokang tlhokomelo e e tseneletseng mo kokelong ya Princess Marina.

**Ditaelo:** Araba dipotso tse di latelang ka go tshwaya ka **X** mo lebokosong le le lemanyeng kgotsa go tlatsa mo tselaneng.

### KAROLO YA NTLHA: KA GA WENA

1. O dingwaga di kae? .....
2. O mokae? .....
3. O nna kae? .....

#### 4. Seeemo sa nyalo

- Ga ke a nyalwa  Ke nyetswe  Ke tladile  Ke motlholagadi
- Tse dingwe (Tlhalosa).....

#### 5. Seemo sa thuto

- Ga ke a tsena sekolo  Sekolo se se botlana  Sekolo se segolwane
- Sekolo sa ithutelo tiro; Certificate
- Diploma

Degree

Masters

PhD

**6. O wa tumelo efe?**

- Mokeresete  Mommoseleme  Mohindu
- Tse dingwe (Tlhalosa).....

**7. Seemo sa tiro**

- Ke a bereka  Ke a ipereka  Ga ke bereke

**8. Mofuta wa tiro**

- Ke bereka kgwedi yotlhe  Ke bereka dinako dingwe

**9. Letsatsi le losea le robaditsweng ka lone.....**

**10. Losea le na le malatsi a le kae mo lephateng la bana ba tlhokang tlhokomelo e e tseneletseng.....**

**11. O na le malatsi a le kae mo sepateleng.....**

**KAROLO YA BOBEDI**

1. Ntlhalosetsa ka botlalo maitemogelo a gago mo tikologong ya lephata la bana ba ba tlhokang tlhokomelo e e tseneletseng ka nako yotlhe e losea lwa gago a neng a robaditswe.

**Dipotso tse di gwetlhang dikgang**

- a) Seemo sa mo teng ga lephata se amile maitemogelo a gago jang?

- b) Maitemogelo a gago ke afe mabapi le mogote le medumo o o mo lephata la bana ba ba tlhokang tlhokomelo e e tseneletseng
2. Ntlhalosetsa ka ga maitemogelo a gago mabapi le le go dirisanya le batsadi ba bangwe mo lephata la bana ba ba tlhokang tlhokomelo e e tseneletseng.
  3. Go dirisanya le batsadi ba bangwe mo lephateng, go amile jang maitemogelo a gago?
  4. Didirisiwa tsa mo lephateng la bana ba ba tlhokang tlhokomelo e e tseneletseng di amile maitemogelo a gago jang?

### **Dipotso tse di gwetlhang dikgang**

- a) A o ne o itse ka ga didirisiwa/mechine tsa mo lephateng la bana ba ba tlhokang tlhokomelo e ee tseneletseng?
  - b) A losea lwa gago le kile la tlhomelwa didirisiwa/mechine mengwe tsa mo lephateng la bana ba ba tlhokang tlhokomelo e e tseneletseng?
  - c) Fa go ntse jalo, go bona losea lwa gago le tlhomilwe didirisiwa/mechine, go amile maitemogelo a gago jang?
  - d) A se, se ne sa ama ka fa o tlhokomelang/tshwaraganang ka teng le losea la gago ka teng?
  - e) Go bona masea a mangwe ba tlhomilwe didirisiwa/mechine mengwe ya mo lephateng la bana ba ba tlhokang tlhokomelo e e tseneletseng go amile maitemogelo a gago jang?
5. Ntlhalosetsa maitemogelo a gago a a molemo le a aseng molemo (fa go na le mangwe) mabapi le kamano ya gago le losea lwa gago mo lephateng.

**Dipotso tse di gwetlhang dikgang**

- a) Ke eng se se go itumedisitseng?
  - b) Ke eng se se sa go itumedisang?
  - c) Seemo sa botsogo jwa losea wa gago se amile maitemogelo a gago jang?
6. Baoki le dingaka ba amile maitemogelong a gago jang ka nako e losea lwa gago le robaditsweng?
7. Ntlhalosetsa maitemogelong a gago ka dinako tse di farologanyeng fa o le mo lephateng la bana ba ba tlhokang tlhokomelo e e tseneletseng, morago ga kgwedi, le morago ga dikgwedi tse pedi.

**Dipotso tse di gwetlhang dikgang**

- a) A maitemogelo a gago a ne a fetoga le lebaka le o le ntseng?
8. O ne o etela losea la gago ga kae mo letsatsing?

**Dipotso tse di gwetlhang dikgang**

- a) A o ne o kgotsofalela dinako tsa go eta, le gone go etala losea lwa gago?
9. Ke eng gape se o ka eletsang go se mpolelela mabapi ka maitemogelo a gago?

Bokhutlo jwa dipotso

Ke a leboga

## **Appendix 5: Consent form to participate in a research study**

**Title of study:** Mothers' experiences regarding prolonged hospitalization of their preterm babies in neonatal intensive care unit in princess marina hospital

**Principal Investigator:** Itshwarelele Ramosukwana

### **Introduction**

You are invited to participate in a research study. Before you agree to participate in this study, you should know enough about it to make informed decision. If you have any questions, ask the investigator. You should be satisfied with the answers before you agree to be in this study.

### **Background/Purpose**

The purpose of this study is to explore the experiences of mothers about prolonged hospitalization of their babies in NICU in Princess Marina Hospital.

### **Information**

Your participation in this study will be done in one session taking about 30-45 minutes of your time. You will be asked some questions by the investigator and feel free to share with him your experiences. The researcher will continue to ask some probing questions as a way of trying to get the in-depth information pertaining to the subject matter. The discussion will be audio tapped and the researcher will also be jotting some notes.

**Alternatives to participation**

*Your participation in this study is voluntary. You may choose not to participate and you may withdraw at any time during the study procedures without any penalty to you. In addition you may choose not to answer any question that makes you uncomfortable.*

**Risks**

*There are no anticipated risks in participating in this study. If you experience emotional distress as you share continue to share your experiences, you may be referred to clinical psychologists or social worker for counseling in the hospital.*

**Benefits**

*Participation in the study may not benefit you directly. However, the knowledge gained from your participation may help us to improve care to mothers of preterm babies hospitalized for a prolonged period in the unit in the future.*

**Confidentiality and Anonymity**

The research is confidential. We will keep this information confidential by limiting access to the research data and keeping it in secure location. The Principal investigator, the institutional Review Board at the Ministry of Health and the Institutional Review Board at the University of Botswana are the only parties that will be allowed to access the data except as may be required by law. During the interview session, movement of other people will be restricted in the room. If a report of this study is published, or the results are presented at a professional conference, only group results will be stated. Reporting and recording the information you have given will be in a manner that does not identify you. This will be achieved by using code numbers instead of your

real names throughout the research process. All study data will be kept for three years before they can be destroyed.

### **Emergency medical treatment**

If you experience any emotional distress as a result of answering questions in this research study, you will be referred to a clinical psychologist or social worker for counseling who can be reached here in the hospital at administration block

### **Contact**

If you have questions at any time about the research or the procedures, you may contact the researcher at:

Itshwarelele Ramosukwana/Principal Investigator

Mobile Number: 71659671

Telephone: 5391330 (Work)

If you have any questions about your rights as a research subject you may contact the IRB

Administrator at:

Head of Health Research Unit

Ministry of Health

Private Bag 0038

Gaborone

Botswana

Telephone (+267) 3914467/3632500

Fax: (+267) 391 4697

Sign below if you agree to participate in this research study. You will be given a copy of this study to keep.

**Subject's signature:.....**

**Date:.....**

**Investigator's Signature.....**

**Date:.....**

## **TUMALA YA GO TSAYA KAROLO MO PATLISISONG**

### **Setlhogo sa patlisiso**

Matitemogelo a bomme ba bana ba bone ba ba tlaeditseng dikgwedi mabapi le go robadiwa ga bana lebaka le le leele mo lephateng la bana ba ba tlhokang tlhokomelo e e tseneletseng mo kokelong ya Princess Marina.

**Mmatlisisi mogolo:** Ke Itshwarelele Ramosukwana

### **Ketapele**

O lalediwa go tsaya korolo mo patlisisong ya setlhogo se se fa godimo se. Pele ga o tsaya karolo, o tshwanetse wa bo o tlhaloganya ka botlalo ka ga patlisiso gore tshwetso e o e tsayang, a bo e le ya motho yo o nang le boikarabelo. Fa o na le sengwe se o sa se tlhaloganyeng, o botse mmotsolosi mme fa a go file dikarabo tse di go kgotsofantsang, a bo e le gone o ka tsayang karolo.

### **Maikemisetso a patlisiso**

Maikaeleleo a patlisiso ke go batlisisa maitemogelo a bomme mabapi le go robadiwa lobaka le leelele ga bana ba bone ba ba tlaeditseng dikgwedi mo ntlwaneng ya bana ba ba tlhokang tlhokomelo e e tseneletseng mo kokelong ya Princess Marina.

### **Kitsiso**

Go tsaya karolo mo patlisisong e go tla tsaya metsotso e le masome a mararo go ya masome a le mane le botlhano a nako ya gago .O kopiwa go gololesega go araba dipotso tse o tla a di botswang go bolelela mmatlisiso ka maitemogelo a gago mabapi le go robadiwa ga ngwana wa

gago lebaka le leleele mo ntlwaneng ya bana ba ba tlhokanang le tlhokomelo e e tseneletseng.

Mmatlisisi o tla a tswelera a go botsolosa ka maikaelelo a go tsaya kitso e e tseneletseng mabapi le setlhogo se. Mmatlisisi o tla a gatisa puisano e ka sekapa-mantswe, a e tla a kwala tse a di tlhokang mabapi le dipatlisiso.

### **A go na le gore o bo o ka itlhophela gore ga o tseye karolo**

Go tsaya karolo ga go patelediwe. O ka tsaya karolo fela fa o ikutlwa o rata go dira jalo. Mme le fa o ne o simolotse go araba dipotso, o ka emisa go dira jalo nako nngwe le nngwe fa o ikutlwa o sa rate, ga o na go pegwe molato. Ga o patelesege o araba dipotso tsotlhe, ka jalo fa go na le dipotso tse di ka go gogomosang maikutlo, o golosegile gore o seka wa di araba.

### **Diphatsa**

O tlhomamisediwa gore ga go na diphatsa dipe tse di solofetsweng fa o tsaya karolo mo patlisisong e. Fa go ka direga gore maikutlo a gago a tsholetseng fa o bua ka maitemogelo a gogo, o tla a romelwa ko go mogakolodi go ya go sidilwa maikutlo gone mo sepateleng se.

### **Dipoelo**

O itsisiwe gore ga go na dipoelo mabapi le go tsaya karolo mo patlisisong e, mme dikarabo tsa gago di tlaa thusa go tokafatsa tlhokomelo ya bomme ba bana ba bone ba robadiwang lebaka le leleele mo ntlwaneng ya bana ba ba tlhokang tlhokomelo e e tseneletseng.

### **Pabalesego ya patlisiso**

Patlisiso e e sephiri. Fa ke re e sephiri jaana ke raya gore , tsotlhe tse di tla buiwang mo patlisisong e, di tlaa bewa mo pabalesegong fa ope motho a ka se di tsee a sena tseletso. Ba e leng batsaya-karolo mo dipatlisisong tse, e bong mmotsolotsi, moruthuntsi wa dithuto tsa

dipatlisiso, ba Institutional Review Board (IBR) ko University ya Botswana, Institutional Review Board ko lephateng la botsogo ke bone fela ba ka letlelelwang go bona puisano e. Ntle le jalo, puisano e ka fiwa ba molao fela fa ba ka e tlhoka. Maduo a patlisiso e, ke one fela a ka abelanwnag le sechaba mo bokopanong bongwe. Gape le maina ga a dirisiwe go itsa gone gore dipuisano di lomaganngwe le wena. Mo boemong jwa leina go tla a dirisiwa dinnomere. O tlhomamesediwa gore dikarabo tsa patlisiso e, di tla boloka dingwaga tse tharo pele ga di ka latliwa.

### **Mabapi le thuso ya potlako**

Fa o ka iphitlhela o kukegile maikutlo mabapi le go araba nngwe ya dipotso mo patlisisong e, o tla a romelwa ko mogakoloding go ya go go sidila maikutlo. Mogakolodi o gone mo sepateleng sa Princess Marina ko dikagong tsa bagolwane.

### **Tumalano**

Fa o na le di potso nako ngwe le ngwe ka patlisiso e, kana tsamaiso ya teng , o letlelelwa go leletsa mmatlisisi mo dinomorong tse di latelang;

Itshwarelele Ramosukwana

Mogala: 5391330 (wa tiro)

Mogala: 71659671

Fa ona le dipotso ka ditshwanelo tsa gago jaaka motsaya karolo mo patlisisong e, o ka itswharaganya le ba bogogi jwa IBR ko nnomoro e e latelang :

Head of Health Research Unity

Ministry of Health

Private Bag 0038

Botswana

[Tel:\(+267\) 3914467/3632500](tel:+26739144673632500)

Fax :(+267)3914697

**GO TSAYA KAROLO MO PATLISISONG**

**O kopiwa go tlhomamisa tumalano ya gago ka go gatisa (saena) ka fa tlase fa o dumalana le go tsaya karolo mo patlisisong e.**

**Gatisa fa.....**

**Letsatsi.....**

**Kgatiso ya Mmotsolosi.....**

**Letsatsi.....**

### Appendix 6: Time line

#### Mothers experiences regarding prolonged hospitalization of their preterm babies in NICU in Princess Marina Hospital

The study is expected to be completed in seven (7) months from May 2016 to November 2016.

The time table for organizing the study, collecting data, analysis and writing the report is shown as follows.

TIME	ACTIVITY	DESCRIPTION
Beginning April 2016	Ethical approval	Submission of proposal for ethical approval by the Institutional Review Board of the University of Botswana and the Ministry of Health
<b>Testing of the instruments</b>		
From 1 <sup>st</sup> to 15 <sup>th</sup> June 2016 or a soon as the proposal is approved	Recruitment of participants for pretesting of the research tools	Recruitment of mothers of preterm babies hospitalized in NICU for a prolonged period to participate in the testing of the instrument
From 16 <sup>th</sup> June to 15 July 2016	Testing the instrument and incooperation of comments	Testing the instrument for its feasibility and finalizing it.
<b>Conducting the study</b>		
From 16 <sup>th</sup> to 31 <sup>st</sup> July 2016	Recruitment of participants	Recruitment of mothers of

		preterm babies hospitalized in NICU for a prolonged period to participate in the study
From 1 <sup>st</sup> August -30 <sup>th</sup> October 2016	Data collection and analysis	This involves individual interviews of participants. Data collection and analysis will occur concurrently. During this period, the researcher will compile, capture, enter and check data.
From 1 <sup>st</sup> November to 31 <sup>st</sup> December 2016	Report writing	Compiling and submission of the final report

## Appendix 7: Research Budget

### RESEARCH BUDGET

<b>BUDGET CATEGORY</b>	<b>UNIT COST</b>	<b>TOTAL COST</b>
	<b>MULTIPLYING FACTOR</b>	
<b>Stationery and supplies</b>		
Pencil	4 x P2.00 each	P8.00
Rubber	1 x P5.00 each	P5.00
A4 Photocopying paper	6 x P75.00 each	P450.00
Lined paper	4 x P50.00 each	P200.00
Memory stick	1X P200.00 each	P200.00
Note book	1X P10.00each	P10.00
Audio recorder	1X P750.00each	P750.00
2 Batteries	12X P15.00each	P180.00
<b>Stationery total</b>		<b>P1803.00</b>
<b>B. Typing</b>		
Permission letter	6 letters at P10.00 per page	P60.00
Final Research Proposal	85 pages at p10.00 per page	P850.00
Instrument (interview guide)	2 pages at P10.00 per page	P20.00
Correction on final research proposal	85 pages at P10.00 per page	P850.00
<b>Typing total</b>		<b>P1810.00</b>
<b>C. Photocopying</b>		

Copying letters (Letters)	6 copies at P1.50	P9.00
Final Research Proposal	8 copies x 85 pages at P1.50	P1020.00
Research instruments (both Setswana and English)	10 pages x 20 copies at P1.50	P200.00
<b>Photocopying total</b>		<b>P1229.00</b>
<b>D. Transport</b>		
<ul style="list-style-type: none"> <li>• Delivery of permission letters to conduct the study and Pilot testing</li> <li>• Testing the instruments (From Thamaga to Princess Marina Hospital and Ministry of Health)</li> </ul>	Return trip- P15.00 x 2 x1 day  Return trip- P15.00 x 2 x3 days	P30.00  P90.00
<b>Meals</b>	P60.00 x 3 days	P180.00
Research Project (Transport during data collection)  Thamaga to Gaborone Bus rank  Gaborone Bus Rank to PMH	Return trip – P15.00 x2 x 15 days  Return trip-P4.50 x 2 x 15 days	P450.00  P135.00

Meals during data collection	P60.00 x 15 days	P900.00
<b>Transport and meals total</b>		<b>P1785.00</b>
<b>E.BINDING</b>		
Research proposal	8 copies at P150.00 per copy	P1200.00
Final Research project report	8 copies at P150.00 per copy	P1200.00
	<b>Binding total</b>	<b>P2400.00</b>
	<b>GRAND TOTAL</b>	<b>P8997.00</b>
	Contingency 10%	P899.70
	<b>TOTAL</b>	<b>P9896.70</b>