

**KNOWLEDGE ATTITUDE AND PRACTICES ABOUT PREVENTION OF NEONATAL
HYPOTHERMIA AMONG POST NATAL MOTHERS AT
KIU-TEACHING HOSPITAL**

**A RESEARCH REPORT SUBMITTED TO UGANDA NURSES AND MIDWIVES
EXAMINATIONS BOARD IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE AWARD OF DIPLOMA IN
NURSING SCIENCES**

BY

OPENYAMUNGU RICHARD

NSIN:N15/U011/DNE/050

APRIL, 2017.

ABSTRACT

In Uganda, deliveries in the villages (32%) are conducted by traditional birth attendants with insufficient knowledge in neonatal thermal protection. Thus most mothers (70%) practice early bathing of the infants, and worst still poorly dry the infant after bathing. To assess knowledge, attitude and practices of postnatal mothers on prevention of neonatal hypothermia in Kampala International University Teaching Hospital, a cross-sectional study design quantitative in nature was used to recruit 60 respondents for the study. Out of whom 60 questionnaires were returned completely filled giving a response rate of 100%. 57% of the respondents stated that neonatal hypothermia could best be prevented through bathing with warm water, 50% disagreed that neonatal hypothermia makes babies stronger later in life and 72% of the respondents agreed that skin to skin care was a good thermo protective practice. The researcher concluded that knowledge about prevention of neonatal hypothermia was not good as more than half of the respondents stated that neonatal hypothermia could best be prevented through bathing with warm water compared to kangaroo mother care despite good level of awareness about neonatal hypothermia, Attitudes towards prevention of neonatal hypothermia were equally not good as most of the respondents strongly agreed that early bathing of new born helps to modify shape of the head and more than half of the respondents strongly agreed that babies could be bathed immediately after birth to purify them from birthing process and practices about prevention of neonatal hypothermia were also not good as most of the respondents strongly agreed that adding substances like ash, rice water and salt in water for bathing neonates helps to prevent hypothermia although half of the respondents disagreed that an uncovered newborn baby could be placed on the floor.

COPYRIGHT

Copyright © (2017) by Openymungu Richard.

AUTHORISATION

Un published research reports submitted to Kampala International University Western Campus School of Nursing Sciences(KIU- WC SONS) and deposited in the library, are open for inspection, but are to be used with due regard to the rights of the author. The author and KIU-WC SONS shall grant privilege of loan or purchase of microfilm or photocopy to the accredited borrowers provided credit is given in subsequent written or published work.

Author; **Openyungu Richard.**

Signature.....Date.....

Supervisor;**Mr. Muhoozi Nobert.**

Signature.....Date.....

Principal; **Mrs. Kabonyoro Annet**

Signature.....Date.....

ACKNOWLEDGEMENT

My sincere gratitude first goes to the Almighty God for giving me the opportunity to undertake this academic journey and seeing me through to the end. To my most cherished mum, Ms. Piracel marry. No amount of words can explain how valuable you are to me. I am forever grateful to you for how far you have turned my life around. To my siblings Komakech Geofrey, Pikisa Patrick and Dr. Komakech Jimmy. It couldn't have been possible without your love, support, encouragement. Words cannot express the joy of being part of this great family. I would like to express my heartfelt appreciation to my Supervisor Mr. Muhoozi Nobert for his constructive criticisms and positive corrections in writing this report. You were like a father to me. I so much cherished the cordial relationship that existed between us right from the beginning to the end. Special thanks to my friends Mbabazi Bridget, Kyohirwe Claire and Dr. Sumba Pius. You guys are so awesome and this will forever remain in my mind. I would like to thank the staff, administration of Kampala International University Teaching Hospital and the respondents for making data collection easy.

God bless you all.

TABLE OF CONTENTS

Abstract.....	i
Copyright.....	ii
Authorisation.....	iii
Acknowledgement.....	iv
List of figures.....	ix
List of tables.....	x
List of acronyms.....	xi
Definition of terms.....	xi
CHAPTER ONE.....	1
Introduction.....	1
Background.....	1
Problem statement.....	3
Study purpose.....	3
Specific objectives.....	4
Research questions.....	4
Significance of the study.....	4
CHAPTER TWO.....	6
Literature review.....	6
Introduction.....	6
Knowledge of postnatal mothers on prevention of neonatal hypothermia.....	6
Attitude of postnatal mothers on prevention of neonatal hypothermia.....	8
Practices of postnatal mothers on prevention of neonatal hypothermia.....	10
CHAPTER THREE.....	12
Methodology.....	12

Introduction.....	12
Study Design and rationale.....	12
Study design.....	13
Study setting	13
Study Population.....	13
Sample size determination.....	13
Sampling procedure.....	14
Selection criteria.....	14
Inclusion criteria.....	14
Exclusion criteria.....	14
Study variables.....	14
Dependent variable.....	14
Independent variable.....	15
Research Instruments.....	15
Data collection procedure.....	15
Data management.....	16
Data analysis and presentation.....	16
Quality control techniques (Steps to minimise errors).....	17

Ethical consideration.....	17
Anticipated study limitations/delimitations.....	17
Dissemination of results.....	18
CHAPTER FOUR.....	19
Data analysis and presentation.....	19
Introduction.....	19
Knowledge of postnatal mothers on prevention of neonatal hypothermia.....	20
Attitude of postnatal mothers on prevention of neonatal hypothermia.....	24
Practices of postnatal mothers on prevention of neonatal hypothermia.....	26
CHAPTER FIVE.....	29
Discussion, Conclusion, Recommendations and Implications to the nursing practice.....	29
Introduction.....	29
Background.....	29
Knowledge of postnatal mothers on prevention of neonatal hypothermia.....	31
Attitude of postnatal mothers on prevention of neonatal hypothermia.....	33
Practices of postnatal mothers on prevention of neonatal hypothermia.....	35
Conclusion.....	37
Recommendations.....	38
Implications to the nursing practice.....	38
Referrences.....	39
APPENDIX i; Informed consent.....	42
APPENDIX ii; Questionnaire.....	43

APPENDIX iii; Introductory.....	47
APPENDIX v; Map of Uganda showing Bushenyi district.....	48
APPENDIX vi; Map of Bushenyi showing KIU-TH.....	49

LIST OF FIGURES

Figure 2.1: Shows response on where the respondent heard about neonatal hypothermia from.....	21
Figure 2.3: Shows response about the normal temperature range.....	22
Figure 2.4: Shows response about signs of neonatal hypothermia.....	23
Figure 2.5: Shows response about how neonatal hypothermia can best be prevented.....	23
Figure 3.1: Shows response about whether babies should not be breast fed immediately after birth.....	24
Figure 3.2: Shows response on whether hypothermia was not a sign of disease but a sign of good fortune.....	25
Figure 4.1: Shows response about whether heated water bottles are good for thermal protection of babies.....	26
Figure 4.2: Shows response about whether skin to skin care is a good thermo protective practice.....	27
Figure 4.3: Shows response about whether adding substances like ash, rice water and salt in water for bathing neonates helps to prevent hypothermia.....	28

LIST OF TABLES

Table 1.1: Shows bio demographic data of the respondents.....	19
Table 2.1: Shows response on whether the respondent had ever heard about neonatal hypothermia.....	20
Table 2.2: Shows response on whether the respondent knew the normal body temperature.....	21
Table 2.3: Shows response about whether the respondent knew any signs of neonatal hypothermia.....	22
Table 3.1: Shows response about whether babies should be bathed after birth to purify them from the birthing process.....	24
Table 3.2: Shows response on whether early bathing of new born helps to modify shape of the head.....	25
Table 3.3: Shows response about whether neonatal hypothermia makes babies stronger later in life.....	26
Table 4.1: Shows response about whether un covered newborn baby can be placed on the floor.....	27
Table 4.2: Shows response about whether a baby should be bathed and dried part by part to prevent hypothermia.....	28

LIST OF ACRONYMS

ANC-Antenatal clinic.

ICU-Intensive Care Unit.

KIU-TH-Kampala International University Teaching Hospital.

SPSS-statistical package for Social Scientists.

SSC-Skin to Skin Care.

WHO-World Health Organisation.

OPERATIONAL DEFINITION OF TERMS

Kangaroo care-Is a technique practiced on a new born whereby infant is held skin to skin with adult.

Low birth weight- Birth weight of live born infant less than 2,500g.

Normothermic-A condition of normal body temperature.

Postnatal-Is a period beginning immediately after birth of the child and extending up to six weeks.

Preterm- Birth of a baby at less than 37 weeks of gestation.

Thermal insulation- Inhibiting transfer of heat energy from one body to another.

Thermoregulation-Is a process that that allows the human body to maintain its core body temperature.

CHAPTER ONE

INTRODUCTION

1.0 Background.

Neonatal hypothermia is defined as abnormal thermal state in which a newborn's body temperature drops below 36.5°C. WHO considers axillary temperature between 36.5°C and 37.5°C as normal. (Loughead *et al.*,2007).

Globally, hypothermia is common in infants born at hospitals (prevalence range, 32% to 85%) and homes (prevalence range 11% to 92%) even in tropical environments. The lack of thermal protection is still under appreciated major challenge for new born survival in developing countries (Dragovich *et al.*,2007). Although hypothermia is rarely a direct cause of death, it contributes to a substantial proportion of neonatal mortality globally, mostly as a comorbidity of severe neonatal infections, preterm birth and asphyxia (Basavanthappa, 2010).

It is estimated that 17 million newborns develop hypothermia annually in Sub Saharan Africa and in some parts of Sub Saharan Africa, incidence of 60% to 80% has been documented. The high incidence of neonatal hypothermia may not be unrelated to persistence of harmful traditional practices like sprinkling of cold water on babies at birth, early bathing of newborns, delayed initiation of breast feeding (Ogulesi *et al.*, 2008).

Neonatal hypothermia is a major condition of public health importance in countries of sub Saharan Africa. Awareness of the burden of the disease is still low in most communities. Risk factors for neonatal hypothermia in the region include poverty, home delivery, low birth weight and inadequate knowledge among mothers (Leblanc, 2011).

In the east African axis, report from Kenyatta National Hospital, Nairobi, Kenya revealed a neonatal hypothermia prevalence of 27.2% among 533 low birth weight babies on admission (Simiyu *et al.*, 2007).

In another study from Tanzania Manji and Kisenge, (2008) reported an incidence of 22.4% among 1632 newborns on admission.

Unlike low prevalence from Tanzania, report of Bryaruhanga *et al.*, (2008) from Uganda show that 83% of 300 newborns on admission developed a rectal temperature of 36⁰ C at 1 hour of delivery.

Neonatal hypothermia has devastating consequences for example the evolving hypoxic ischaemic encephalopathy accounts for approximately 23% of the four million annual neonatal deaths globally. Of the infants who survive 25% to 55% will suffer significant neurologic sequellae (Leadford *et al.*,2013).

WHO recommends a warm chain to prevent hypothermia which includes; Warm delivery room (> 25°C),warm resuscitation (Warm towels), immediate drying, skin-to-skin contact between baby and the mother (Kangaroo Care), breastfeeding, bathing and weighing postponed, appropriate clothing and bedding to environment, mother and baby together, warm transportation – extra clothes outdoors and training/awareness of healthcare providers ((Oestergaard *et al.*, 2011).

1.2 Problem statement.

Neonatal deaths due to hypothermia are un equally distributed across the globe mainly stemming from poor knowledge, attitude and practices about neonatal hypothermia as Half of worlds newborns die at home and 99% of all deaths occur in developing countries where average neonatal mortality rate is 33per 1000 compared with 4 per 1000 in high income (WHO, 2009).

In the African setting, the erroneous belief that colostrums are harmful to the babies underlies the practice of delayed breastfeeding thus contributing to hypothermia. This is shown by studies in Nigeria where by 79.2% of hypothermic babies did not have timely initiation of breastfeeding (Oestergaard *et al.*, 2011).

In Uganda, deliveries in the villages (32%) are conducted by traditional birth attendants with insufficient knowledge in neonatal thermal protection. Thus most mothers (70%) practice early bathing of the infants, and worst still poorly dry the infant after bathing (Bryaruhanga *et al.*,2008).

At KIU-TH, 8% of preterm infants transferred to the paediatric Intensive Care Unit (ICU) are due to hypothermia mainly arising from poor knowledge and practices about hypothermia (KIU-TH records,2009).This has prompted the researcher to carry out this study to explore dynamics relevant in highlighting the magnitude of neonatal hypothermia in the study area.

1.3 Study purpose

To assess knowledge, attitude and practices of postnatal mothers on prevention of neonatal hypothermia in Kampala International University Teaching Hospital (KIU-TH).

1.4 Specific objectives

- i) To assess the knowledge of postnatal mothers on prevention of neonatal hypothermia in KIU-TH.
- ii) To find out the attitudes of postnatal mothers on prevention of neonatal hypothermia in KIU-TH.
- iii) To determine the practices of postnatal mothers on prevention of neonatal hypothermia in KIU-TH.

1.5 Research questions

- i) What is the level of knowledge of postnatal mothers about prevention of neonatal hypothermia at KIU-TH?
- ii) What is the attitude of postnatal mothers towards prevention of neonatal hypothermia in KIU-TH?
- iii) What are the practices of postnatal mothers on prevention of neonatal hypothermia in KIU-TH?

1.6 Justification.

The research findings may be beneficial to;

1.6.1 Nursing practice.

To become active participants and advocates of prevention of neonatal hypothermia by observing the warm chain recommendations.

1.6.2 Nursing education.

The study findings may be incorporated in the nursing curriculum to enhance teaching and learning of student nurses about prevention of neonatal hypothermia.

1.6.3 Nursing research.

The study findings may be used as a reference by other researchers with similar interest in assessing knowledge, attitude and practices about prevention of neonatal hypothermia.

1.6.4 Nursing administration/management.

The study findings may help nurse managers to identify areas that need improvement in the prevention of neonatal hypothermia.

1.6.5 KIU-Teaching Hospital community.

The study findings may help the hospital community to identify their strength and weaknesses in the prevention of neonatal hypothermia.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction.

This chapter presents review of literature relevant to the study that was obtained from various sources that include medical and nursing journals, text books and internet and is presented in relation to study objectives that includes; To assess the knowledge, attitudes and practices of postnatal mothers on prevention of neonatal hypothermia in KIU-TH.

2.1 Knowledge of postnatal mothers on prevention of neonatal hypothermia.

Global knowledge on neonatal hypothermia is generally poor as highlighted by a study in Dhaka by Dragovich *et al.*, (2007) about knowledge of postnatal mothers on hypothermia. The pretest knowledge scores of mothers revealed that 6.66% had good knowledge, 56.66% had average knowledge and 36.66% had poor knowledge.

Almost similar findings to the above were obtained in Pakistan study among postnatal mothers. Chouduri (2009), noted that among 50 mothers 20% had good knowledge, 46% had average knowledge and 34% had poor knowledge regarding prevention of neonatal hypothermia.

A similar study conducted in Srilanka on mothers' knowledge on thermoregulation of neonates showed that very few mothers 7% knew the normal body temperature of a neonate. Of the mothers who knew regarding hypothermia, 60% of their babies were hypothermic while 40% of them were normothermic. Apart from that, out of mothers who did not know the normal body temperature of a neonate, 63% of babies were hypothermic and 37% (n=50) of the babies were normothermic (Zhu and Pang, 2013).

The findings of the evaluation on the Nepal studies concluded that awareness of the importance of thermal control and basic knowledge on thermal regulation and thermal protection were insufficient as 65% of them stated that neonatal hypothermia can only be prevented by incubating the baby in prenatal warmers and not by skin to skin care (Basavanthappa, 2010).

In another related study in India by Dutta, (2008), 73% of mothers knew the signs of hypothermia. Yet, out of them 67.5% of their babies were hypothermic and only 32.5% were normothermic. On the other hand 50% of babies were hypothermic and another 50% were normothermic from the mothers representing 27% of those who did not know the signs of hypothermia which was attributed to a universal lack of knowledge on prevention of neonatal hypothermia.

In the African context a study conducted in Lufwanyama, Zambia showed that there was a general awareness among mothers that exposure to cold places newborns at risk for adverse morbidity and mortality but however, 70% of the mothers never adhered to the recommended thermo protective measures for neonates (Gill *et al.*, 2011).

Similarly data collected in the Tanzania studies showed that 66% of mothers knew the possible problems of hypothermia but 57% of their babies were hypothermic and 43% were normothermic. The results also showed that 70% of the respondents had no knowledge regarding the kangaroo care. Only 30% postnatal mothers had good knowledge regarding the kangaroo care (Thairu and Pelto, 2008).

In Uganda a persistent pattern of poor knowledge about neonatal hypothermia was demonstrated in a study carried out in St. Francis hospital Nsambya where by only 29% of

the mothers knew about neonatal hypothermia but 56% of their infants were hypothermic 90 minutes after birth because they did not have knowledge on kangaroo method (Sofer and Benkovich, 2007).

2.2 Attitude of postnatal mothers on prevention of neonatal hypothermia.

Globally, the attitudes towards neonatal hypothermia is seen to be influenced by cultural beliefs for example a study from Dhaka, Bangladesh explained that babies were typically bathed soon after birth to purify them from the birthing process (Moran *et al.*,2009). Similarly in Nepal, less than half of newborns were wrapped within the first 10 minutes after birth, and almost all of them were bathed within minutes or hours after birth (Osrin *et al.*, 2012).

In another study conducted in Turkey, babies were not breastfed until the azan (in Islamic countries the call in Arabic to prayer proclaimed five times a day by the muezzin) to which Egri and Golbasi, (2007) attributed the belief that babies would be patient when they grow up. It was noted that 84% of the mothers breastfed their babies soon after delivery, but that the rest did not breastfeed their babies until they heard three to five azans (Geckil *et al.*, 2009). Early breastfeeding is important to provide glucose and nutrients to neonate so as to maintain the basal metabolism which results in heat production for the infant (Marsh *et al.*, 2012).

In the African setting, Ghana studies revealed that early bathing was linked to reducing body odor in later life, shaping the baby's head, and helping the baby to sleep and feel clean. Informants felt that changing bathing behaviors would be difficult, especially as babies were bathed early in facilities (Hill *et al.*,2010).

In a study conducted in Tanzania, bathing newborns immediately after delivery was shown to be motivated by concerns about 'ritual pollution' (Mullany, 2010).

In Nigeria study, a hypothermic neonate was considered by mothers to be in a state of communication with the ancestors and therefore would only be taken to witch doctors to seek for their opinions and rituals would be performed to appease the ancestors (Geckil *et al.*, 2009).

Among the zulu of South Africa, new borns would stay outside the house until a cold breeze breeze blows as 25% of them attributed it to sign of success in life for the mother and the newborn (Leadford *et al.*, 2013).

Ogulesi *et al.*, (2008) in their study in Senegal found out that babies up to one week old used to be immersed in a tub of cold water as most thought that it was right treatment for a sick looking newborn.

Studies from North Eastern Uganda show that a hypothermic neonate was considered to be a very strong warrior when he grows up as he is already used to cold environment and therefore wouldn't be scared of staying outside the house throughout the night (Dragovich *et al.*,2007).

2.3 Practices of postnatal mothers on prevention of neonatal hypothermia.

Globally, practices on prevention of neonatal hypothermia vary from nation to nation, some beneficial and others non beneficial for example, a study in mount Lebanon hospital revealed that thermal control practices were frequently inadequate in the areas such as initiation of breastfeeding and contact with mother, bathing, checking the baby's temperature, thermal protection of low birth weight babies and care during transport (Pascale and Bernadettle, 2007).

Ayaz and Saleem, (2010) found out in their study in Karachi, Pakistan that smaller babies and those perceived as needing more protection, heated water bottles were commonly used to provide external warmth. Both caretakers' and health workers' narratives reflected that warming babies, particularly premature ones, with warm water bottles at times for weeks and months and feeding them expressed breast milk were believed to foster their growth and development.

Although the neonatal bath is very important as a healthy practice for babies, Nepal study revealed that only 31% of participants had practiced the correct way of bathing. Another 69% participants were practicing incorrect ways such as washing the baby's body without drying the wet head, and washing the baby's head and body together at the same time (Dragovich *et al.*, 2007).

Studies from South Turkey identified poor practices such as insufficient heating of the birth place, placing the uncovered newborn on the ground or other cold surfaces, delayed wrapping and early bathing as common predisposing factors to hypothermia (Geckil *et al.*, 2009).

Similarly studies by Osrin *et al.*, (2012) showed that in many parts of Turkey, mothers swaddle their babies tightly in order to keep them warm or in order that babies can be strong, have beautiful legs or just sleep. In rural areas, it is still believed that swaddling keeps babies warm.

In the Zambia study, premature babies in the village used to be taken to big health centers. But if they couldn't go, then for these babies, they used hot water in plastic containers and then cover them properly with blankets. Sometimes even a brazier is used in the room to keep it warm (Leadford *et al.*,2013).

In the Bostswana study, skin-to-skin care (SSC) was not a reported practice in the study area (Kumar *et al.*, 2010). Continuous thermal care beyond the early period after delivery is often assumed to be beneficial, e.g., for premature infants or those born small for gestational age (Degan, 2008). Several studies conducted in various settings such as Uganda, Ghana and India suggested that in the absence of health facilities prepared to deliver essential newborn care, community members would accept the implementation of thermo protective practices such as skin-to-skin care (Waiswa *et al.*, 2010).

In addition, bathwater is added gold, silver, hellebore, forty grains of rice, etc. so that babies or their mouths do not smell bad in their later lives (Chouduri, 2010). A small amount of salt is also added to bathwater and then babies are rinsed. Mothers also applied salt to prevent sweating. However sweating is necessary for body. (Sreeramareddy *et al.*, 2009).

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter presents the research methodology which is the detailed procedure of the study. The chapter comprises of the following sections: study design, study setting, study population, selection criteria, sample size determination, sampling technique, study variables, data collection techniques and instruments, data management, and data analysis quality control techniques, ethical considerations of the study, anticipated limitations and dissemination.

3.2 Study Design and rationale

3.2.1 Study design

This study was conducted through a cross-sectional study design quantitative in nature. A cross sectional design is a present oriented research design used to investigate populations by selecting samples to analyse and discover occurrences (Schmidt and Kohlmann,2008). The study design was used to examine postnatal mothers in KIU-TH by assessing the knowledge, attitude and practices towards prevention of neonatal hypothermia. The cross-sectional research design was selected because it aids in rapid data collection, takes a “snap shot” of a population at a certain point in time, allowing conclusions about phenomena across a wide population to be drawn.

3.3 Study setting.

The study was carried out at Kampala International University Teaching Hospital (KIU-TH), a private not for profit hospital located within Ishaka municipality in Bushenyi district, Western Uganda. The hospital is approximately 365 Km south west of Kampala, Uganda's capital city. The hospital was established 2005 to aid training of nursing and medical students studying at Kampala International University. The hospital offers general as well as specialised medical services.. It has a bed capacity of over 700 beds. The hospital specifically serves Bushenyi, Rubizirizi, Sheema and Mitooma districts.

3.4 Study Population

The study population consisted of postnatal mothers who are admitted in KIU-TH postnatal unit.

3.4.1 Sample size determination.

The sample size for the respondents at KIU-TH was calculated using Sloven (1962) formula with precisions of +/- 5% at confidence level of 95%. It is given by the expression;

$$n = \frac{N}{1 + N(e)^2}$$

Where N=Target population, N=70 (estimated number of postnatal mothers per month)

e=Fixed error, e=0.05

$$n = \frac{70}{1 + 70(0.05)^2}$$

$$1 + 70(0.05)^2$$

n=60 respondents

Therefore 60 respondents were recruited for the study.

3.4.2 Sampling procedure

Purposive sampling method which is a non probability sampling technique where participants are selected based on their characteristics and objective of the study was used to recruit 60 respondents for the study. Purposive sampling method is cheap, easy and allows the researcher to reach the targeted sample size quickly.

3.4.3 Selection criteria

Inclusion criteria

The study included all postnatal mothers with new born babies present at the post natal ward at the time of interview and willing to consent for the study.

Exclusion criteria

Mothers who were very sick, mentally ill, the deaf or lost their newborns were excluded from the study.

3.5 Study variables

3.5.1 Dependent variable

Factors affecting prevention of neonatal hypothermia.

3.5.2 Independent variable

Knowledge on hypothermia.

Attitudes towards hypothermia.

Practices towards hypothermia.

3.6 Research Instruments

A structured questionnaire was used as a tool for gathering information. The structured questionnaire was preferred in this study because a lot of information can be collected over a short period of time. The structured questionnaire was divided into four sections:

The first section was used to collect data about socio-demographic profile, The second section was used to assess knowledge of mothers on hypothermia, third section was used to assess attitude towards hypothermia and the fourth section was used to assess practices of mothers towards hypothermia.

3.7 Data collection procedure

The researcher introduced herself to the prospective participants and read to the individual participants the consent form that detailed the title and purpose of the study as well as the rights of the participant. Whenever a participant agreed to be interviewed he/she was asked to provide written consent by signing or fingerprinting. If they refused to participate the interview would not proceed.

After obtaining the written consent, the researcher entered the questionnaire serial number and date of interview and proceeded from the first up to the last question using a language

understood by the participant. The researcher entered responses given by the participants by ticking the appropriate response and entering the same number in to the coding box. This was done to ensure data quality as the response number ticked was supposed to be the same as the one entered in the coding box. If the numbers were different it would not be a valid response. The researcher reviewed the questionnaires on a daily basis to ensure they are being completed correctly and any errors corrected to avoid being repeated. The process of data collection continued until every effort to contact every study participant in the sample had been exhausted. All completed questionnaires were kept safe by the researcher until the time of analysis.

3.7.1 Data management

Quantitative data was collected using a structured questionnaire. Completed questionnaires were checked for accuracy, for any missing data and completeness on a daily basis after data collection at the end of the day. This was followed by coding and entry of the data using Epi info 3.4.1 software for Windows and double entry into SPSS version 16.0 software for analysis.

3.7.2 Data analysis and presentation.

Data was analysed by descriptive statistics using SPSS (Statistical Package for Social Scientists) version 16.0 software and presented in frequency tables, piecharts and bar graphs.

3.8 Quality control techniques.

For reliability and validity, questionnaire was pretested with a tenth of the sample size outside the study area. The questionnaire was then revised and content adjustments made accordingly. After data collection, questionnaires were checked daily, for completeness, clarity, consistency and uniformity by the researcher.

3.9 Ethical consideration

A letter of introduction was obtained from Kampala International University Western School of Nursing Sciences to carry out the research.

Permission was obtained from KIU-TH executive director.

All participating mothers were selected on the basis of informed consent.

The study was on voluntary basis and information was kept private and confidential. Participants' anonymity was kept. The study was conducted while upholding the professional code of conduct in a manner that did not compromise the scientific inclinations of the research.

3.10 Study limitations.

It was hard to obtain audience from the mothers, this was however overcome by creating rapport and administering a questionnaire before they obtain treatment.

There was a problem of language barrier-A research assistant however helped to interpret whenever necessary.

3.11 Dissemination of results

Copies of results were disseminated to Bushenyi district health office for appropriate interventions, Kampala International university western campus library, and Uganda Nurses and Midwives examinations board for marking.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION

4.0 Introduction

This chapter is concerned with analysis, interpretation and presentation of data collected.

Out of 60 respondents interviewed 60 questionnaires were returned completely filled thus a response rate of 100%.

4.1 Bio demographic data.

Table 1.1: Shows bio demographic data of the respondents (n=60)

Bio demographic parameter		Frequency (n)	Percentage (%)
Age (Years)	18-28	37	61.7
	29-39	20	33.3
	40-49	3	5
	>50	-	-
	Total	60	100
Tribe	Munyankole	53	88.3
	Muganda	-	-
	Others	7	11.7
	Total	60	100
Religion	Christian	43	71.7
	Moslem	17	28.3
	Others	-	-
	Total	60	100
Marital status	Married	60	100
	Single	-	-
	Divorced	-	-
	Widowed	-	-
	Total	60	100
Employment status	Employed	4	6.7
	Un employed	46	76.7
	Self employed	10	16.6
	Total	60	100
Education level	None	-	-
	Primary	38	63.3
	Secondary	18	30
	Tertiary	4	6.7

	Total	60	100
--	--------------	-----------	------------

Majority of the respondents (61.7%) were in the age range between 18-28 years of age while only (5%) were of the age range 40-49 years. Majority of the respondents (88.3%) were Banyankole while only (7%) were other tribes. Most of the respondents (71.5%) were Christian while only 28.3% were Moslem. All the respondents (100%) were married. Majority of the respondents (76.7%) were un employed while only 6.7% were employed. Most of the respondents 63.3% attained primary level of education while only 6.7% attained tertiary level of education.

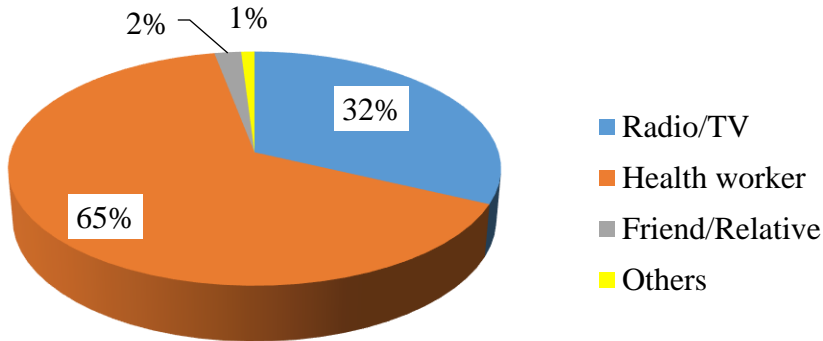
4.2 Knowledge of postnatal mothers on prevention of neonatal hypothermia.

Table 2.1: Shows response on whether the respondent had ever heard about neonatal hypothermia (n=60).

Response	Frequency (n)	Percentage (%)
Yes	60	100
No	-	-
Total	60	100

All the respondents (100%) had ever heard about neonatal hypothermia.

Figure 2.1: Shows response on where the respondent heard about neonatal hypothermia from (n=60).



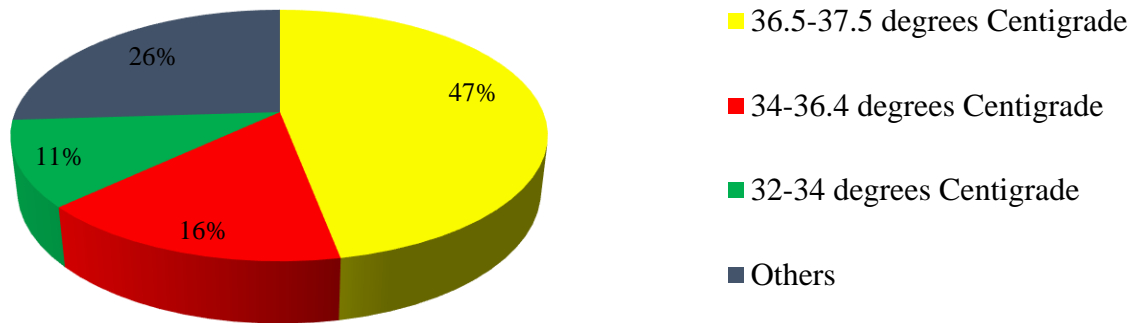
Most of the respondents (65%) heard about neonatal hypothermia from the health workers while only 1% heard from other sources like posters.

Table 2.2: Shows response on whether the respondent knew the normal body temperature (n=60).

Response	Frequency (n)	Percentage (%)
Yes	49	81.7
No	11	18.3
Total	60	100

Majority of the respondents (81.7%) stated that they knew the normal body temperature while only 18.3% stated that they did not know the normal body temperature.

Figure 2.3: Shows response about the normal temperature range (n=49)



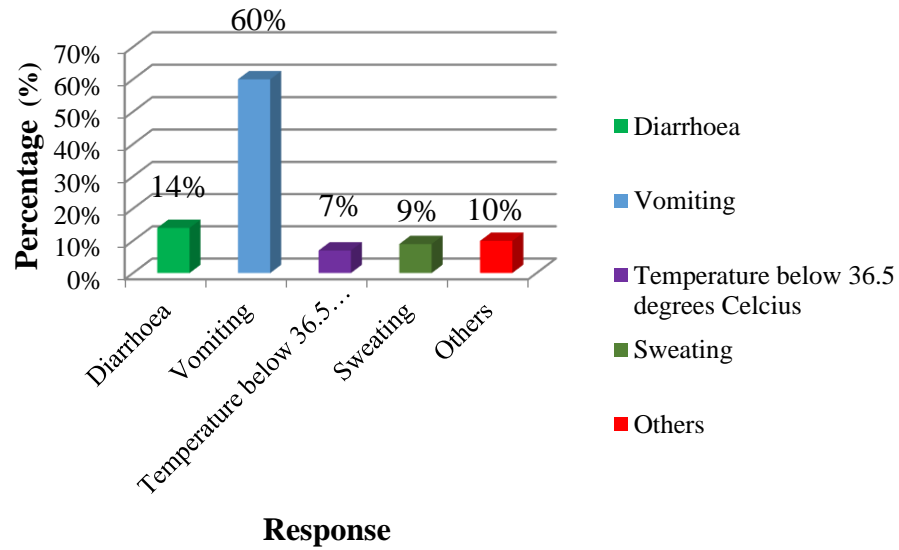
Less than half of the respondents (47%) who stated that they knew the normal body temperature mentioned the normal body temperature to be between 36.5 to 37.5° C while only 11% mentioned normal body temperature to be between 32 to 35.5° C.

Table 2.3: Shows response about whether the respondent knew any signs of neonatal hypothermia (n=60).

Response	Frequency (n)	Percentage (%)
Yes	60	100
No	-	-
Total	60	100

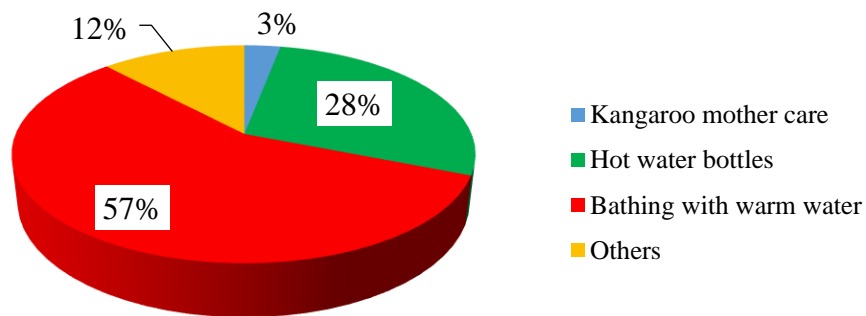
All the respondents (100%) stated that they knew signs of neonatal hypothermia.

Figure 2.4: Shows response about signs of neonatal hypothermia (n=60)



Most of the respondents (60%) who stated that they knew signs of neonatal hypothermia mentioned vomiting as a sign of neonatal hypothermia while 7% mentioned temperature below 36.5°C.

Figure 2.5: Shows response about how neonatal hypothermia can best be prevented (n=60)



More than half (57%) of the respondents stated that neonatal hypothermia could best be prevented through bathing with warm water while only 3% mentioned kangaroo mother care.

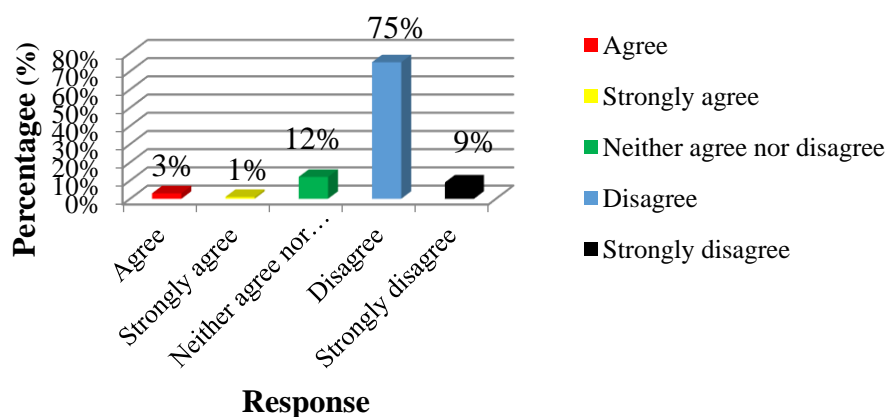
4.3 Attitude towards prevention of neonatal hypothermia.

Table 3.1: Shows response about whether babies should be bathed after birth to purify them from the birthing process (n=60).

Response	Frequency (n)	Percentage (%)
Agree	13	21.7
Strongly agree	34	56.7
Neither agree nor disagree	2	3.3
Disagree	3	5
Strongly disagree	8	13.3
Total	60	100

More than half of the respondents (56.7%) strongly agreed that babies could be bathed immediately after birth to purify them from birthing process while only 3.3% neither agreed nor disagreed.

Figure 3.1: Shows response about whether babies should not be breast fed immediately after birth (n=60).



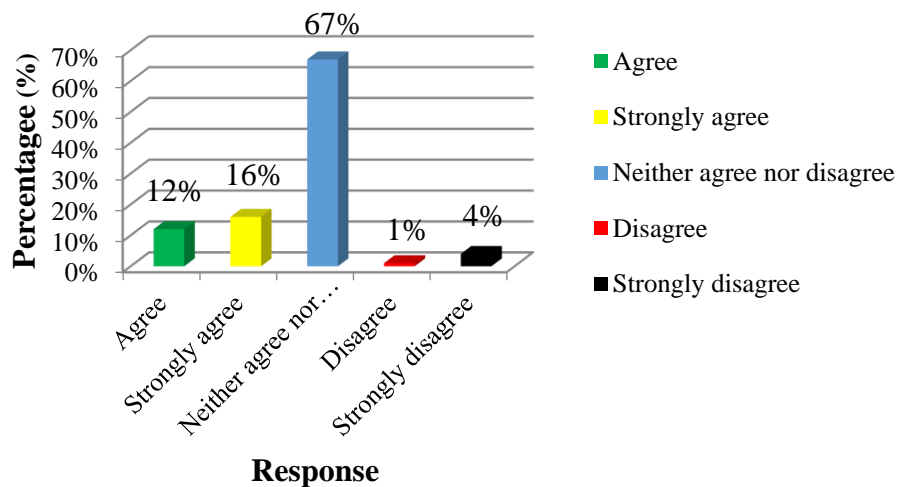
Majority of the respondents (75%) strongly disagreed that babies should not be breast fed immediately after birth while only 1% strongly agreed.

Table 3.2: Shows response on whether early bathing of new born helps to modify shape of the head (n=60).

Response	Frequency (n)	Percentage (%)
Agree	12	20
Strongly agree	38	63.3
Neither agree nor disagree	-	-
Disagree	6	10
Strongly disagree	4	6.7
Total	60	100

Most of the respondents (63.3%) strongly agreed that early bathing of new born helps to modify shape of the head while only 6.7% strongly disagreed.

Figure 3.2: Shows response on whether hypothermia was not a sign of disease but a sign of good fortune (n=60).



Most of the respondents (67%) neither agreed nor disagreed that hypothermia was not a sign of disease but a sign of good fortune while only 1% agreed.

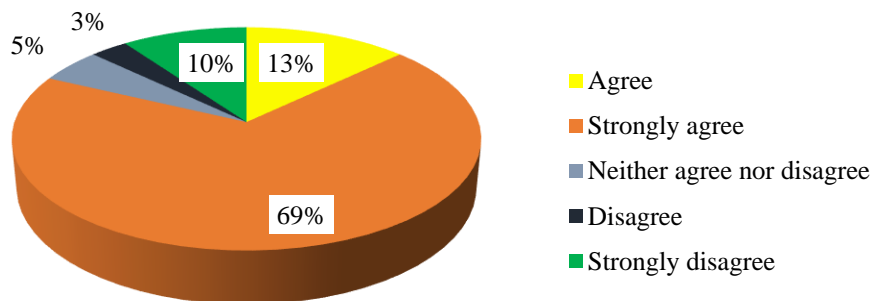
Table 3.3: Shows response about whether neonatal hypothermia makes babies stronger later in life (n=60).

Response	Frequency (n)	Percentage (%)
Agree	11	18.3
Strongly agree	19	31.7
Neither agree nor disagree	-	-
Disagree	30	50
Strongly disagree	-	-
Total	60	100

Half of the respondents (50%) disagreed that neonatal hypothermia makes babies stronger later in life while only 18.3% agreed.

4.4 Practices on prevention of neonatal hypothermia.

Figure 4.1: Shows response about whether heated water bottles are good for thermal protection of babies (n=60).



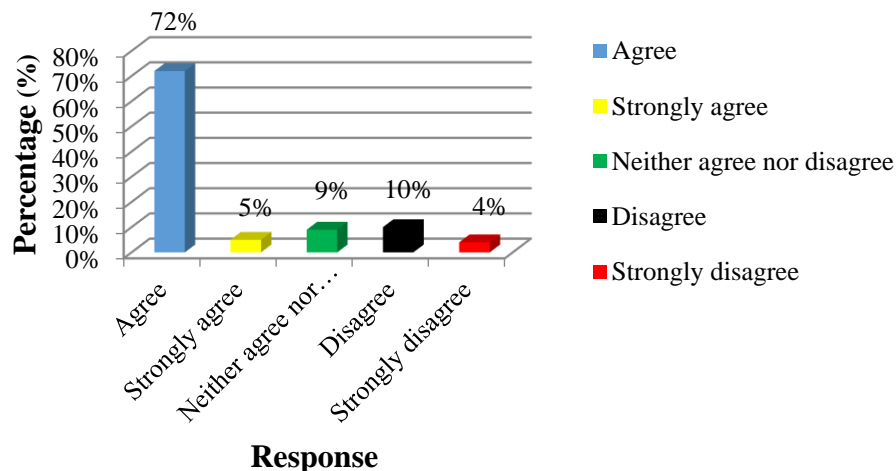
Most of the respondents (69%) strongly agreed that heated water bottles were good for thermal protection of babies while only 3% disagreed.

Table 4.1: Shows response about whether un covered newborn baby can be placed on the floor (n=60).

Response	Frequency (n)	Percentage (%)
Agree	24	40
Strongly agree	2	3.3
Neither agree nor disagree	-	-
Disagree	30	50
Strongly disagree	4	6.7
Total	60	100

Half of the respondents (50%) disagreed that un covered newborn baby can be placed on the floor while only 3.3% disagreed.

Figure 4.2: Shows response about whether skin to skin care is a good thermo protective practice (n=60).



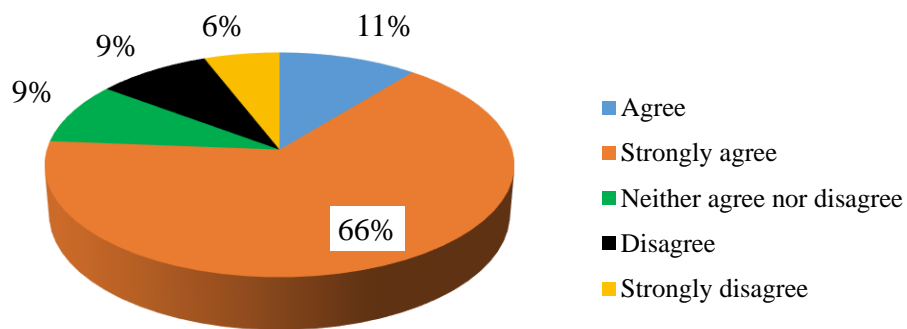
Most of the respondents (72%) agreed that skin to skin care was a good thermo protective practice while only 4% strongly disagreed.

Table 4.2: Shows response about whether a baby should be bathed and dried part by part to prevent hypothermia (n=60).

Response	Frequency (n)	Percentage (%)
Agree	8	13.3
Strongly agree	37	61.7
Neither agree nor disagree	-	-
Disagree	5	8.3
Strongly disagree	10	16.7
Total	60	100

Most of the respondents (61.7%) strongly agreed that a baby should be bathed and dried part by part to prevent hypothermia while only 8.3% disagreed.

Figure 4.3: Shows response about whether adding substances like ash, rice water and salt in water for bathing neonates helps to prevent hypothermia (n=60).



Most of the respondents (66%) strongly agreed that adding substances like ash, rice water and salt in water for bathing neonates helps to prevent hypothermia while only 6% strongly disagreed.

CHAPTER FIVE

DISCUSSION, CONCLUSION, RECOMMENDATIONS AND IMPLICATIONS TO THE NURSING PRACTICE

5.0 Introduction.

This chapter presents interpretation and discussion of study findings objectively in relation to the study background, statement of the problem and literature review to answer research questions, conclude and make recommendations about knowledge, attitude and practices about prevention of neonatal hypothermia among post natal mothers at KIU teaching hospital. Out of 60 respondents recruited in the study, 60 questionnaires were returned completely filled thus a response rate of 100%.

5.1 Discussion of findings.

5.1.1 Biodemographic data.

Majority of the respondents (61.7%) were in the age range between 18-28 years of age while only (5%) were of the age range 40-49 years. The age of the respondent may influence knowledge, attitudes and practices about prevention of neonatal hypothermia as experience on neonatal care improves with increasing age because of knowledge acquired from past experience and health education from health facilities.

Majority of the respondents (88.3%) were Banyankole while only (7%) were other tribes. Different tribes have cultural practices which can predispose neonates to hypothermia for example initiation ceremonies whereby a newborn is either sprinkled or bathed with cold water. This study findings are related with the findings of Ogulesi *et al.*, (2008) who stated that the high incidence of neonatal hypothermia in Africa may not be unrelated to

persistence of harmful traditional practices like sprinkling of cold water on babies at birth and early bathing of newborns

Most of the respondents (71.5%) were Christian while only 28.3% were Moslem. Religious institution can help improve on knowledge, attitudes and practices about prevention of neonatal hypothermia by incorporating health messages about prevention of neonatal hypothermia and responsible parenthood in their sermons.

All the respondents (100%) were married. Married individual share responsibilities of taking care of the new born thus come up with better decisions for prevention of hypothermia among their newborns such decision to take a newborn to a health care facility in case of neonatal hypothermia.

Majority of the respondents (76.7%) were un employed while only 6.7% were employed. Employment status influences income levels of the respondents and therefore ability to meet the medical bills in case the neonate suffers from hypothermia.

Most of the respondents 63.3% attained primary level of education while only 6.7% attained tertiary level of education. Education influences health seeking behaviors therefore educated mothers are mother likely to adhere to conventional measures for prevention of neonatal hypothermia. This study findings are related to the findings of Leblanc, (2011) who mentioned that inadequate knowledge among mothers to be one of the risk factors for neonatal hypothermia.

5.1.2 Knowledge of postnatal mothers on prevention of neonatal hypothermia.

All the respondents (100%) had ever heard about neonatal hypothermia. Most of the respondents (65%) heard about neonatal hypothermia from the health workers while only 1% heard from other sources like posters. Mothers are usually given health education about prevention of neonatal hypothermia both antenatally and postnatally hence most of them heard about neonatal hypothermia from the health workers. This study findings are in tandem with the findings of Chouduri (2009) who found out from his study in Pakistan among postnatal mothers that among 50 mothers 20% had good knowledge, 46% had average knowledge and 34% had poor knowledge regarding prevention of neonatal hypothermia.

Majority of the respondents (81.7%) stated that they knew the normal body temperature while only 18.3% stated that they did not know the normal body temperature. Less than half of the respondents (47%) of those who stated that they knew the normal body temperature mentioned the normal body temperature to be between 36.5 to 37.5° C while only 11% mentioned normal body temperature to be between 32 to 35.5° C. This results show that although the respondents claimed be knowing the normal body temperature, a good number of them could not accurately tell the normal body temperature. This study findings concur with the findings of Zhu and Pang, (2013) who found out from their study in Srilanka about mothers' knowledge on thermoregulation of neonates that very few mothers 7% knew the normal body temperature of a neonate and that out of the mothers who knew regarding hypothermia, 60% of their babies were hypothermic while 40% of them were normothermic. Apart from that, out of mothers who did not know the normal

body temperature of a neonate, 63% of babies were hypothermic and 37% (n=50) of the babies were normothermic.

All the respondents (100%) stated that they knew signs of neonatal hypothermia. Most of the respondents (60%) who stated that they knew signs of neonatal hypothermia mentioned vomiting as a sign of neonatal hypothermia while 7% mentioned temperature below 36.5°C. This results showed that there was little knowledge about signs of neonatal hypothermia as most of the respondents could not tell precisely signs of neonatal hypothermia. This study findings are related to the findings of Dutta, (2008) who found out in a study conducted in India that 73% of mothers knew the signs of hypothermia. yet, out of them 67.5% of their babies were hypothermic and only 32.5% were normothermic.

More than half (57%) of the respondents stated that neonatal hypothermia could best be prevented through bathing with warm water while only 3% mentioned kangaroo mother care. The best method of prevention of neonatal hypothermia is through kangaroo mother care as it offers adequate warmth at body temperature and has no risk of causing injuries or burns to the newborn. This study findings are fairly in contrast with the findings of method Sofer and Benkovich, (2007) who conducted a study in St. Francis hospital Nsambya in Uganda and found out that a persistent pattern of poor knowledge about neonatal hypothermia where by only 29% of the mothers knew about neonatal hypothermia but 56% of their infants were hypothermic 90 minutes after birth because they did not have knowledge on kangaroo mother care. This study findings however, agree with the findings of Basavanthappa, (2010) who conducted a study in Nepal and concluded that awareness of the importance of thermal control and basic knowledge on thermal regulation and

thermal protection were insufficient as 65% of them stated that neonatal hypothermia could only be prevented by incubating the baby in prenatal warmers and not by skin to skin care

5.1.3 Attitude towards prevention of neonatal hypothermia.

More than half of the respondents (56.7%) strongly agreed that babies could be bathed immediately after birth to purify them from birthing process while only 3.3% neither agreed nor disagreed. Bathing babies immediately after birth especially with cold water exposes them to the risk of hypothermia. Therefore it is recommended that immediately after birth babies should be placed on the mothers abdomen as this offers skin to skin care and hence transferring warmth from the mother to the baby. This study findings are in line with the findings of Moran *et al.*, (2009) who found out in a study from Dhaka, Bangladesh that babies were typically bathed soon after birth to purify them from the birthing process. The study findings also agree with the findings of Osrin *et al.*, (2012) who conducted a study in Nepal and found out that less than half of newborns were wrapped within the first 10 minutes after birth and almost all of them were bathed within minutes or hours after birth.

Majority of the respondents (75%) strongly disagreed that babies should not be breast fed immediately after birth while only 1% strongly agreed. Breastfeeding provide glucose used to generate energy for muscle contraction and some of it is used directly to generate heat during metabolic processes hence maintaining constant thermal supply to the body. This study findings agree with the findings of Geckil *et al.*, (2009) who found out in the study conducted in Turkey that 84% of the mothers breastfed their babies soon after delivery, but that the rest did not breastfeed their babies until they heard three to five azans(Muslim calls for religious prayers).

Most of the respondents (63.3%) strongly agreed that early bathing of new born helps to modify shape of the head while only 6.7% strongly disagreed. Early bathing of the baby for whatever reasons exposes the baby to cold temperatures with a potential risk of becoming hypothermic. This study findings are in tandem with the findings of Hill *et al.*, (2010) who found in a study conducted in Ghana that early bathing was linked to reducing body odor in later life, shaping the baby's head, and helping the baby to sleep and feel clean. The study findings also concur with the findings of Mullany, (2010) who conducted a study in Tanzania and found out that bathing newborns immediately after delivery was shown to be motivated by concerns about 'ritual pollution'.

Most of the respondents (67%) neither agreed nor disagreed that hypothermia was not a sign of disease but a sign of good fortune while only 1% agreed. Neonatal hypothermia can be a sign of a pathological process or it may be primarily due to poor temperature regulatory mechanisms as in premature neonates. This study findings agree with the findings of Geckil *et al.*, (2009) who found out in their Nigeria study that a hypothermic neonate was considered by mothers to be in a state of communication with the ancestors and therefore would only be taken to witch doctors to seek for their opinions and rituals would be performed to appease the ancestors.

Half of the respondents (50%) disagreed that neonatal hypothermia makes babies stronger later in life while only 18.3% agreed. Neonatal hypothermia is detrimental to the health of a neonate is associated with fatal consequences such hypoxia, metabolic acidosis, organ failure and even death although some cultures have false beliefs that it makes neonates stronger in life, its consequences may not be admirable by any party concerned. This study findings agree with the findings of Leadford *et al.*, (2013) who found out in a study among

the zulu of South Africa that new borns would be left to stay outside the house until a cold breeze breeze blows as 25% of them attributed it to sign of success in life for the mother and the newborn. The study findings also agree with the findings of Ogulesi *et al.*, (2008) who found out in their study in Senegal that babies up to one week old used to be immersed in a tub of cold water as most thought that it was right treatment for a sick looking newborn. This study findings also agree with the findings of Dragovich *et al.*, (2007) who found out that in North Eastern Uganda a hypothermic neonate was considered to be a very strong warrior when he grows up as he is already used to cold environment and therefore wouldn't be scared of staying outside the house throughout the night.

5.1.4 Practices on prevention of neonatal hypothermia.

Most of the respondents (69%) strongly agreed that heated water bottles were good for thermal protection of babies while only 3% disagreed. It is true that heated water bottles can be used for thermal protection but their use has risk of thermal injuries therefore require knowledge and skill before attempting to use them. This study findings are in concert with the findings of Ayaz and Saleem, (2010) who found out in their study in Karachi, Pakistan that smaller babies and those perceived as needing more protection, heated water bottles were commonly used to provide external warmth and that caretakers' and health workers' narratives reflected that warming babies, particularly premature ones, with warm water bottles at times for weeks and months and feeding them expressed breast milk were believed to foster their growth and development. The study findings also agree with the findings of Leadford *et al.*, (2013) who found out in Zambia study that premature babies in the village used to be taken to big health centers and that if they couldn't go, then for

these babies, they used hot water in plastic containers and then cover them properly with blankets.

Half of the respondents (50%) disagreed that un covered newborn baby can be placed on the floor while only 3.3% agreed. Placing the baby on the floor leads to heat lose by conduction hence facilitating the development of neonatal hypothermia. This study findings are in line with the findings of Geckil *et al.*, (2009) who conducted a study in South Turkey and found out that poor practices such as insufficient heating of the birth place, placing the uncovered newborn on the ground or other cold surfaces, delayed wrapping and early bathing were common predisposing factors to hypothermia. This study findings are also in line with the findings of Pascale and Bernadettle, (2007) who found out in a study in mount Lebanon hospital that thermal control practices were frequently inadequate in the areas such as initiation of breastfeeding and contact with mother, bathing, checking the baby's temperature, thermal protection of low birth weight babies and care during transport.. The study findings are further related with the findings of Waiswa *et al.*, (2010) who found out in studies conducted in various settings such as Uganda, Ghana and India that in the absence of health facilities prepared to deliver essential newborn care, community members would accept the implementation of thermo protective practices such as skin-to-skin care.

Most of the respondents (61.7%) strongly agreed that a baby should be bathed and dried part by part to prevent hypothermia while only 8.3% disagreed. Bathing the baby part by part and covering prevents heat lose from the exposed moist surfaces hence preventing hypothermia. This study findings agree with the findings of Dragovich *et al.*, (2007) who found out in their Nepal study that only 31% of participants had practiced the correct way

of bathing and that another 69% of the participants were practicing incorrect ways such as washing the baby's body without drying the wet head, and washing the baby's head and body together at the same time.

Most of the respondents (66%) strongly agreed that adding substances like ash, rice water and salt in water for bathing neonates helps to prevent hypothermia while only 6% strongly disagreed. Addition of unconventional substances in water for bathing infants does not protect them from hypothermia but instead predisposes them to infections. This study findings agree with the findings of Chouduri, (2010) who stated that mothers added gold, silver and grains of rice to bath water so that babies or their mouths do not smell bad in their later lives.

5.2 Conclusion.

i) Knowledge about prevention of neonatal hypothermia was not good as more than half of the respondents stated that neonatal hypothermia could best be prevented through bathing with warm water compared to kangaroo mother care despite good level of awareness about neonatal hypothermia.

ii) Attitudes towards prevention of neonatal hypothermia were equally not good as most of the respondents strongly agreed that early bathing of new born helps to modify shape of the head and more than half of the respondents strongly agreed that babies could be bathed immediately after birth to purify them from birthing process.

iii) Practices about prevention of neonatal hypothermia were also not good as most of the respondents strongly agreed that adding substances like ash, rice water and salt in water

for bathing neonates helps to prevent hypothermia although half of the respondents disagreed that an uncovered newborn baby could be placed on the floor.

5.3 Recommendations.

i) To the government of Uganda increase sensitisation of through the media about prevention of neonatal hypothermia to improve on knowledge of mothers about prevention of neonatal hypothermia

ii) To the ministry of health to improve on supervision of health staff in health facilities to ensure that the recommended warm chain by WHO is being observed.

iii) Kampala International University Teaching Hospital to increase health education of mothers about prevention of neonatal hypothermia both prenatally and postnatally.

iv) To the future researchers to conduct more research about prevention of neonatal hypothermia in other parts of Uganda so as to come up with more comprehensive findings and conclude appropriately.

5.4 Implications to the nursing practice.

Neonatal hypothermia is a common condition during neonatal period especially among premature neonates therefore the findings of this study may be used by nurses to improve on their practices towards prevention of neonatal hypothermia and further advocate for better equipments such as incubators or baby warmers for immediate warming of babies after birth.

REFERENCES

Ayaz A., Saleem S., (2010). *Neonatal mortality and prevalence of practices for newborn*

care in a squatter settlement of Karachi, Pakistan: a cross-sectional study.

- Basavanthappa, B.T., (2010). *Nursing research*, 2nd edition, pp 89-229. New Delhi. Jaypee brothers Medical Publishers (P) Ltd.
- Bryaruhanga R., Bergstrom A., Okong P., (2008). Neonatal hypothermia in Uganda. Prevalence and risk factors. *J Trop Pediatr* 51:212-15.
- Chouduri K.C., (2009). A study to evaluate the knowledge, attitude and practices of neonatal hypothermia among postnatal mothers. *Indian Journal of Paediatrics* .67(7): 491-96.
- Dawodu A.H., Effiong C.E., (2005). *Neonatal mortality* by bright publishers, Bristol city, pp 51–75.
- Degan R., Gorodischer R., (2008); Infections in hypothermic infants younger than 3 months old. *American journal of disease of children*. 138(87):483-485.
- Dragovich D., Tamburlini G., Kambarami R., (2007). A study to assess the knowledge and practice of health professionals about thermal control of the newborns. *Journal of Nursing practice and Research*. 532(9):213-15.
- Egri, G., & Golbasi, Z. (2007). Traditional postnatal infant-care practices of 15-49 years old married women. *Preventive Medicine Bulletin by Turkish Armed Forces Doctors* 6(5):313-320.
- Geckil, E., Sahin, T., & Ege, E. (2009). *Traditional postpartum practices of women and infants and the factors influencing such practices in South Eastern Turkey*. *Midwifery*, 25(1):62-71.
- Gill C.J., Phiri-Mazala G., Guerina N.G., Kasimba J, Mulenga C., (2011). *Effect of training traditional birth attendants on neonatal mortality* (Lufwanyama Neonatal Survival Project): randomised controlled study. *BMJ* 342(45):346.
- Kampala International University Teaching hospital records, 2009.
- Kumar V., Yadav R., Singh V., Singh P., (2006). Introduction of community-based skin-to-skin care in rural Uttar Pradesh, India. *J Perinatol* 26(10): 597–604.
- Leadford A.E., Warren J.B., Manasyan A., Chomba E., Salas A.A., (2013). Plastic bags for prevention of hypothermia in preterm and low birth weight infants. *BMJ* 20(9):128–134.
- Leblanch H., (2012). The physical environment. *Perinatal medicine*. 7th edition, published by minimum graphics in St Louis Missouri, pp 512-514.

- Loughead M.K., Loughead J.L., Reinhart M.J.,(2007).Incidence, physiologic characteristics of hypothermia in the very-low-birth-weight infants.*Journal of pediatric nursing*. 123(49):11–15.
- Manji K.P., Kisenge P.,(2008).Neonatal hypothermia on admission to special care unit in Dar es salam,Tanzania. *Afr J med* 49:23-7.
- Marsh, D. R., Darmstadt, G. L., Moore, J., Daly, P., Oot, D., &Tinker, A. (2012). Advancing newborn health and survivalin developing countries: a conceptual framework. *Journalof Perinatology*, 22(7):572-576.
- Moran A.C., Choudhury N., Uz Zaman Khan N., Ahsan Karar Z., WahedT.,(2009). Newborn care practices among slum dwellers in Dhaka, Bangladesh: a quantitative and qualitative exploratory study. *BMC Pregnancy Childbirth* 998(86):780-975.
- Mullany L.C., (2010).*Neonatal hypothermia in low-resource settings*. 34(22):426–433.
- Oestergaard M.Z., Inoue M., Yoshida S., Mahanani W.R., Gore F.M., Cousens S., Lawn J.E., Mathers C.D.,(2011).Neonatal mortality levels for 193 countries in 2009 with trends since 1990. a systematic analysis of progress, projections, and priorities.*Journal of neonatology*, 67(98):89-96.
- Ogulesi T.A., Ogunfowora O.B., Adekanmbi F.A., Fetuga R.M., Olanrewaju D.M.,(2008). A point of admission hypothermia among high risk Nigerian newborns. *BMC Pediatr* 34(8):8-40.
- Osrin D., Tumbahangphe K.M., Shrestha D., Mesko N., Shrestha B.P,(2012).Cross sectional, community based study of care of newborn infants in Nepal.*Bmj* 325(2): 1063.
- Pascale S., Bernadettle B,(2007).A study to describe the knowledge, attitude and practice of midwives regarding neonatal care at mount Lebanon, Hospital. *Journal of Neonatal Nursing* 13(4):155-56.
- Schmidt C.O, Kohlman(2008).When to use odds ratio or relative risk. *International journal of public health*.53(3):165-167.
- Simiyu D.E.,(2007).Mortality and morbidity of low birth weight infants in newborn units of kenyatta National Hospital Nairobi *Afr Med J* 81(36):7-74.
- Sofer S., Benkovich E., (2007).Severe infantile hypothermia,short and long term outcome. *Intensive care medicine*.4th edition, Published by candle publisher, Birmingham,pp82-92.

Sreeramareddy C.T., Joshi H.S., Sreekumaran B.V., Giri S, Chuni N., (2009).Home delivery and newborn care practices among urban women in western Nepal: aquestionnaire survey. *BMC Pregnancy Childbirth* 6(1): 65-90.

Thairu L., Pelto G., (2008).Newborn care practices in Pemba Island (Tanzania) and their implications for newborn health and survival. *Maternal Child Nutrition*, 4th edition,pp194–208.

Waiswa P., Nyanzi S., Namusoko-Kalungi S., Peterson S., Tomson G.,(2010).‘I never thought that this baby would survive; I thought that it would die any time’: perceptions and care for preterm babies in eastern Uganda. *Trop Med Int Health* 15:1140–1147.

WHO(2009).Essential newborn care. A report of technical group, Geneva.

Zhu C.Y., Pang R.Y., (2013).Epidemiological study on hypothermia in newborns. *Chin Med J (Engl)* 106:428–432.

APPENDIX I: INFORMED CONSENT

Dear respondent,

Am **Openy-mungu Richard**, a student of Kampala International University Western Campus conducting a study on **knowledge attitude and practices about neonatal hypothermia among mothers in the postnatal ward at KIU Teaching Hospital**. The purpose of this study is for partial fulfillment of academic requirements for the award of the Diploma in Nursing Science. You have been selected to participate in this study by convenience (Because of your accessibility to the researcher).

Your participation in this study is voluntary. I therefore request you to assist with answering the questions included in this questionnaire. Please note that any information which you give will strictly be confidential and I will not write down your name or any information that identifies you. You do not have to answer any question that you do not want to. You can stop the interview any time. The relevancy of this study will depend so much on your honest response to the questions asked. If you agree to participate in this interview, you may sign below but if you do not agree, you can let me know at this point and I will not proceed with the interview. Agree [] or Disagree []

Signature/ Thumb print of respondent.....

Date.....

APPENDIX II: QUESTIONNAIRE ON KNOWLEDGE ATTITUDE AND PRACTICES ABOUT PREVENTION OF NEONATAL HYPOTHERMIA AMONG POSTNATAL MOTHERS IN KIU-TH BUSHENYI DISTRICT.

Instructions; Please tick the appropriate response.

SECTION A: BIODEMOGRAPHIC DATA

!.BIODATA		RESPONSE (TICK)
a)Age	18-28	
	29-39	
	40-49	
	>50	
b)Sex	Male	
	Female	
c)Tribe	Munyankole	
	Muganda	
	Others(Specify)	
d)Religion	Christian	
	Moslem	
	Others (Specify)	
f)Marital status	Married	
	Single	
	Divorced	
	Others (Specify)	
Education level	None	
	Primary	
	Secondary	
	Tertiary	

SECTION B; KNOWLEDGE ABOUT PREVENTION OF HYPOTHERMIA

1. Have you ever heard about neonatal hypothermia?

a) Yes

- b) No []
2. If yes to 1a above, where did you hear about it from?
- a) Radio/TV []
- b) Health worker []
- c) Friend/relative []
- d) Others (Specify).....
3. Do you know the normal body temperature?
- a) Yes []
- b) No []
4. If yes to 2a above, what is the normal body temperature range?
- a) 36.5 to 37.5⁰ C []
- b) 34 to 36.4⁰ C []
- c) 32 to 35.5⁰ C []
- d) Others (Specify).....
5. Do you know any signs of neonatal hypothermia?
- a) Yes []
- b) No []
6. If yes to 5a above, what are some of the signs of neonatal hypothermia?
- a) Diarrhoea []
- b) Vomiting []
- c) Temperature below 36.5⁰ C []
- d) Sweating []
- e) Others (Specify).....

7. How can neonatal hypothermia best be prevented?.

a) Kangaroo mother care []

b) Hot water bottles []

c) Bathing with warm water []

d) Others (specify).....

SECTION C; ATTITUDE TOWARDS PREVENTION OF NEONATAL HYPOTHERMIA

3.Attitude	Agree	Strongly agree	Neither agree nor disagree	Disagree	Strongly disagree
a)Babies should be bathed after birth to purify them from the birthing process					
b)Babies should not be breast fed immediately after birth					
c)Early bathing of new born helps to modify shape of the head					
d)Hypothermia is not a sign of disease but a sign of good fortune					
e)Neonatal hypothermia makes babies stronger later in life					

SECTION D; PRACTICES ON PREVENTION OF NEONATAL HYPOTHERMIA.

4. Practices	Agree	Strongly agree	Neither agree nor disagree	Disagree	Strongly disagree
a)Heated water bottles are good for thermal protection of babies					
b)Un covered newborn baby can be placed on the floor					
c)Skin to skin care is a good thermo protective practice					
d)A baby should be bathed and dried part by part to prevent hypothermia					
e)Adding substances like ash, rice water and salt in water for bathing neonates helps to prevent hypothermia					

APPENDIX III: INTRODUCTORY LETTER

Office of the Dean - School of Nursing Sciences

TO WHOM IT MAY CONCERN

IN CHARGE - MATERNITY

Please allow this student to administer his data collection

Dear Sir/Madam

RE: OPENY-MUNGU RICHARD - DNS/E/3797/153/DU

The above mentioned is a student of Kampala International University - School of Nursing Sciences undertaking Diploma in Nursing Science and he is in his final academic year.

He is recommended to carry out his data collection as a partial fulfillment for the award of the Diploma in Nursing Science.

His topic is KNOWLEDGE ATTITUDE AND PRACTICES ABOUT PREVENTION OF NEONATAL HYPOTHERMIA AMONG POST NATAL MOTHERS AT KAMPALA INTERNATIONAL UNIVERSITY-TEACHING HOSPITAL

Any assistance rendered to him will be highly appreciated.

Thank you in advance for the positive response.


Nabaliisa Sarah,
RESEARCH COORDINATOR



APPENDIX IV: MAP OF UGANDA SHOWING BUSHENYI DISTRICT



BUSHENYI DISTRICT.

APPENDIX VI: MAP OF BUSHENYI DISTRICT SHOWING KAMPALA

INTERNATIONAL UNIVERSITY -TEACHING HOSPITAL



KIU-TEACHING HOSPITAL.

