

**CHRISTAIN SERVICE UNIVERSITY COLLEGE  
DEPARTMENT OF NURSING**

**MOTHERS KNOWLEDGE ON THE CARE OF PREMATURED BABIES**

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## ABSTRACT

Premature birth is the world's largest killer of new born babies causing more than one million deaths each year. To understand and assess the knowledge of mother who have given birth to premature babies on their care with regard to their feeding, infection prevention and provision of warmth that leads to their survival and reduce their readmission into the neonatal intensive unit. A structured questionnaire was the tool used for data collection. The study population and sample included mothers who have given birth to premature babies receiving care at the mother and baby unit of the Kumasi south hospital. A total of 50 mothers participated in the study. The first set of questionnaire requested demographic data, followed by questionnaire assessing mothers knowledge on the gestational age of the baby, means of feeding the premature babies, means of warmth provision and infection prevention to the premature baby. This is a descriptive study where a quantitative analysis was employed in conducting the study. Convenience sampling method was used. Data collection and analysis were done by using descriptive statistics and entry was done using excel and epi info. Charts, graphs and tables were used to summarize the data. From the current study, the level of education mothers had affected the care they provided for their premature babies. Most of the respondent mothers have had formal education so their response with regards to the feeding of the preterm baby and provision of warmth was encouraging. However, their knowledge with infection prevention was shallow since they did not consider other forms of infection prevention like environmental hygiene and care takers hygiene.

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## LIST OF ABBREVIATIONS

KMC	Kangaroo mother care
MBU	Mother and Baby Unit
WHO	World Health Organisation
US	United States
UK	United Kingdom

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background To The Study

Premature birth is the world's largest killer of newborn babies, causing more than 1 million deaths each year, yet 75 percent could be saved without expensive, high technology care. "Essential newborn care is especially important for babies born premature". This means keeping them warm, clean and well-fed, ensuring that babies who have difficulty breathing get immediate attention and providing mothers of premature babies with effective education (WHO Journal, 2012).

Premature newborns run twice as many risks. A biological risk due to physiological immaturity and an environmental risk due to poor environment associated with low income common to most families. In this context, the result is a greater harm to the growth and development of these babies (Amstrong-Schellenberg et al, 2007).

Babies born between 32 and less than 37 completed weeks of pregnancy make up 85 percent of the 15 million premature babies born annually-12.6 million (WHO 2012). It is important that women during pregnancy are confronted with this apprehension(Goldenberg, 2006).However, this is complicated as the mothers of premature infants are interrupted in their preparations and therefore do not get as far as going through the phase of anxiety over their unborn child's health during pregnancy. Not only in the high economic and social costs, but also in the suffering to families. Pregnancy and the birth of a baby change the whole family context, creating expectations and anxieties and, in the case of a premature newborn, these are expressed in a



different and unique way. Feelings such as incompetence, frustration, anger, guilt, and anguish are sometimes present when parents loose hope of having a baby that is completely healthy and when the one they have is not their ideal( Romero, 2007).

Families have their own habits and values and when they have to face care for the premature baby, they face cultural problems related with lack of guidance, many times requiring the help of a professional. The routine of families is affected by the presence of the baby and it can be changed in some aspects, like abandoning bad habits such as smoking, at least inside the house.

The nursing team is always facing this issue because they remain in contact with the baby and the family longer and there is the need for new intervention strategies such as the support groups.

The approach for development and individualized care for premature babies includes these aspects and one of its components is care centered on the family. Additionally, one of the guiding principles of care in the Agenda for commitment to Comprehensive Child Health and Reduction of Infant Mortality.

The tendency to encourage early premature newborn discharge and the technological development that increased survival make these babies, many times, being discharged from hospital dependent on some kind of technology. Thus, the families are responsible for increasingly complex care, requiring insertion of families in hospital care and their efficient preparation for this task (Mc Donald et al, 2007)

Thus, the Health Education Program is a place for mothers to talk, be heard and let it out. The lack of research on learning and on the learning needs of premature families has led to increase death of premature birth in Ghana and Africa with Nigeria recording 665,080 and Democratic

Republic of Congo also recording 291, 750 of premature births. (WHO, 2012). Ghana Health Service statistics release in May 2012 figures 111,500(14.5%) as premature babies that survive and 7800 that dies as a result of complications.

The situation becomes alarming as the Kumasi south hospital records 16% of the total cases of premature births in 2010 and this percentage increased to 27% in 2011 with a sharp increase to 40% in 2012 (Ghana Health Service, 2012). These increments in the cases of premature babies being readmitted in the Kumasi South Hospital purports the need for determining the knowledge level and equipping mothers of such babies with the needed knowledge in managing their babies when discharge. The knowledge of mothers directly has an effect on the care given to preterm babies.

To understand the birth problem and hospitalization of premature newborns for families, especially for mothers, providing them with knowledge on the care of premature babies is an essential part of the educational activities since it can alleviate mother's suffering. Thus, the Health Education Program is a place for mothers to talk, and gain adequate knowledge on caring for their babies.

It is with the alarming death of premature babies and their readmission into the Kumasi South Hospital that our research group decided to assess the knowledge of mothers with premature babies on their care in order to reduce their mortality.

## **1.2 RESEARCH PROBLEM**

Kumasi south hospital records 16% of the total cases of premature births in 2010 and this percentage increased to 27% in 2011 with a sharp increase to 40% in 2012 (Ghana Health Service, 2012). These increments in the cases of premature babies being readmitted in the Kumasi South Hospital purports the need for determining the knowledge level and equipping mothers of such babies with the needed knowledge in managing their babies when discharge. The knowledge of mothers directly has an effect on the care given to preterm babies.

To find out if lack of knowledge on the feeding practices, prevention of infection and provision of warmth of mothers of premature babies has led to the readmission of these babies into the MBU.

## **1.3 PURPOSE OF STUDY**

The purpose of the study is to seek mothers' knowledge on the care of premature babies at Kumasi South Regional Hospital in Asokwa Metropolis.

## **1.4 Research Objectives**

Main Objective

1. To determine mothers' knowledge on feeding practices of premature babies.
2. To identify mothers' knowledge on infection prevention measures for premature babies.
3. To identify mothers' knowledge on provision of warmth for their premature babies.

## **1.5 Research Questions**

1. Are premature babies fed with breast milk or artificial milk?
2. What are the measures taken by mothers to prevent infection in their premature babies?
3. What are the measures taken by mothers to provide warmth for their premature babies?

## CHAPTER TWO

### LITERATURE REVIEW

#### **2.1 Overview of Premature Births**

In humans premature birth (Latin: *partus praetemporaneus* or *partus praematurus*) is the birth of a baby of less than 37 weeks gestational age. The cause of premature birth is in many situations elusive and unknown; many factors appear to be associated with the development of premature birth, making the reduction of premature birth a challenging proposition (Goldenberg et al., 2008).

In humans the usual definition of premature birth is birth before a gestational age of 37 complete weeks (Opondo et al, 2009). In the normal human fetus, several organ systems mature between 34 and 37 weeks, and the fetus reaches adequate maturity by the end of this period. One of the main organs greatly affected by premature birth is the lungs. The lungs are one of the last organs to mature in the womb; because of this, many premature babies spend the first days/weeks of their life on a ventilator. Therefore, a significant overlap exists between premature birth and prematurity.

#### **2.2 Care of Premature Babies With Respect to Warmth Provision.**

Premature infants are vulnerable to heat loss due to immature thermoregulatory mechanisms and large surface area to body weight ratios. Hypothermia on admission is an important factor in neonatal morbidity and mortality. Hypothermia is associated with glucose and electrolyte abnormalities, metabolic acidosis, renal failure, infection, apnoea, hypotension, bradycardia, respiratory distress, thrombocytopenia, and bleeding (Mrisho Armstrong et al, 2008)

Babies need warmth because they lack the body fats which are very important in sustaining normal body temperatures. This is why incubators and radiant warmers are the resting place of preemies because they help to keep them warm. Maintaining a baby's body temperature at home is easy by swaddling them with blankets to keep them warm.

Darmsatadt et al. (2005) conducted a study on interventions to prevent hypothermia at home after discharge in premature and/or low birth weight babies, all trials using randomized or quasi randomized allocations were done to test specific interventions designed to prevent hypothermia in infants of less than 37 weeks of gestational age. A total of 304 infants were assessed. The study concluded that plastic wraps or bags, skin to skin care and trans warmer mattresses all keep premature infants warmer, leading to higher temperatures and less hypothermia for few months of early neonatal life. Darmsatadt et al. (2005) in his study indicated a knowledge deficit in the provision of warmth among mothers as health personnel had knowledge deficits in premature baby care.

Kangaroo Care is a method of skin-to-skin contact between infant and parent which allows for maintenance of body temperature and stability of vital signs while providing the infant with a loving and safe environment. The infant is held against the parent's skin with a blanket around him or her and with a cap on to maintain warmth. By providing parents with this unique opportunity to have close physical contact with their premature infants, nurses can give a human touch to a very technical place.(Amstrong-schellenberg et al, 2007 ).

Study was conducted by Amstrong-schellenberg et al, (2007) on kangaroo mother care (KMC) and its differential physiological influence on premature babies. In 86 premature babies, one hour Kangaroo Mother Care was given and pre and post Kangaroo Mother Care, changes in heart rate, respiratory rate, and temperature and spo<sub>2</sub> were measured in each baby. Significant changes observed decreased in heart rate by 3 bpm, respiratory Rate by 3 min<sup>-1</sup> and increase in the mean of temperature by 0.4 °f and spo<sub>2</sub> by 1.1%. It was concluded that, premature babies are benefited by even 1 hour of kangaroo mother care.

### **2.3 Care of Premature Baby With Respect To Infection Prevention**

A premature baby can develop infections in almost any part of the body; the most common sites involve the blood, the lungs, the lining of the brain and spinal cord, the skin, the kidneys, the bladder, and the intestines. A baby may acquire an infection in utero when bacteria or viruses are transmitted from the mother's blood through the placenta and umbilical cord. Infection may also be acquired during birth from the natural bacteria that live in the genital tract, as well as other harmful bacteria and viruses. Lastly, some babies develop infections after birth, after days or weeks in the Neonatal Intensive Care Unit.

Clean birth practices reduce maternal and neonatal mortality and morbidity from infection-related causes, including tetanus Blencowe et al., (2011). Premature babies have a higher risk of bacterial sepsis. Hand cleansing is especially critical in neonatal care units. However basic hygienic practices such as hand washing and maintaining a clean environment are well known but poorly done. Unnecessary separation from the mother or sharing of incubators should be avoided as these practices increase spread of infections. For the poorest families giving birth at

home, the use of clean birth kits and improved practices have been shown to reduce mortality . The consideration of hygiene as indicated by Opondo et al. (2009) makes it clear that personal hygiene and that of the environment ultimately affected the care of the premature baby.

A study was conducted by Armstrong, Schellenberg et al, (2007) to evaluate the feasibility and effectiveness of managing low premature neonates in home setting. Observations on a cohort of neonates in the pre- intervention year of home based neonatal care in rural Gadchiroli India, showed that premature birth constituted the most important risk factors. Feasibility was assessed by coverage and by quality of care. Effectiveness was evaluated by change in case fatality and in the incidence of co- morbidities in low birth weight or premature neonates by comparing the pre intervention year with the intervention years. Conclusion was made after the study that, home based management of premature neonates is feasible and effective. It remarkably improved survival by preventing co-morbidities by supportive care and by treating infections.

#### **2.4 Care of Premature Baby With Respect To Nutrition Provision**

Early initiation of breastfeeding within one hour after birth has been shown to reduce neonatal mortality Bhutta et al., (2008), Premature babies benefit from breast milk nutritionally, immunologically and developmentally Callen and Pinelli, (2005). The short-term and long-term benefits compared with formula feeding are well established with lower incidence of infection and necrotizing enterocolitis and improved neurodevelopmental outcome Mullany et al.

(2008). Most premature babies require extra support for feeding with a cup, spoon or another device such as nasogastric tubes Romero et al,( 2008). In addition, the mother requires support for expressing milk, studies by Mrisho ,Armstrong et al, (2008) also prescribed that feeding



should be done in bits and frequently as child could not sustain much food in their system which calls for the need to feed frequently. In another study by Armstrong et al. (2008) exclusive breast feeding was identified to be the best for the care of premature babies as it had the entire nutritional requirement for the proper and quick development of such infants.

A study was conducted by Romero J.D and Goldenberg (2008) to assess the relation between early and exclusive breast feeding and neurodevelopment. This study shows that in premature infants mother's choice to provide breast milk, was associated with higher developmental scores. Children who had consumed breast milk in early weeks of life had a significantly higher IQ of 71/ 2-8 years than those who received no breast milk. This advantage was associated with being fed breast milk by tube rather than with the process of breast feeding. There was a close response between the proportion of mother's milk in diet and subsequent IQ. The result pointed to a beneficial effect of human milk on neurodevelopment.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1 Scope of study**

The study was conducted among fifty mothers to find out their knowledge on the care of their premature babies at Kumasi South hospital. The geographical scope for the study was mothers who have given birth to premature babies living in Atonsu, Agogo and Chirapatre Township. The time frame for conducting the study was between four to six months. The hospital is under the auspices of Ghana Health Service and the only public hospital in Asokwa sub-metro. The hospital was developed from the former Kumasi health center built in 1972. It was upgraded to a district hospital in 2002 and a regional hospital. Kumasi south hospital has 53 beds and the following services, clinical care, public health, diagnostic, management and administration in general surgery, dental surgery, urology, eye care, obstetrics and Gynaecology, ENT and Mother and Baby unit (MBU).

There are six registered nurses, five auxiliary nurses and a pediatrician in the MBU. Conditions often seen include neonatal sepsis, premature babies and low birth weight babies, jaundice, etc. The unit has a septic and a non-septic room and two separate rooms for the mothers. The first room is for mothers with premature babies and the second room is for mothers with babies with other conditions.

#### **3.2 Sample size**

Fifty mothers with premature babies who were readmitted into the MBU of the Kumasi south hospital were sampled as subject for the study.

### **3.3 Sample technique**

Convenient sampling technique was employed. Respondent mothers were selected by virtue of their availability at the time of sampling process.

### **3.4 Sampling population**

Mothers with premature babies receiving treatment at MBU of the hospital living within Atonsu, Chirapatre and Agogo Township

### **3.5 Data collection and analysis**

The technique for data collection was a structured questionnaire comprising of closed ended questions. The written questionnaires will also be sub divided into three sections accessing mothers' knowledge on feeding of the premature baby, infection prevention of the premature baby, provision of warmth to the premature baby. The data after collection has been prepared for analysis using percentages, frequencies and presented in a form of tables and bar graphs using Epi info 7 software.

### **3.6 Ethical Consideration**

An ethical permit was obtained from the Kumasi south hospital administration. The researchers were then given a formal authorization to conduct the study at the hospital. Individual mothers with premature babies receiving care at the hospital were also given a talk to let them know the importance of the study. It was after this process that the mothers voluntarily consented to partake in the study and responded to the questionnaire.

### **3.7 Validity and Reliability**

Fifty (50) respondents from Kumasi South hospital were sampled. Kumasi South hospital was chosen because it has an MBU facility. The accuracy of the data gathering instrument was amended where necessary after careful and thorough perusal by a research expert.

**CHAPTER FOUR**  
**RESULTS OF DATA ANALYSIS**

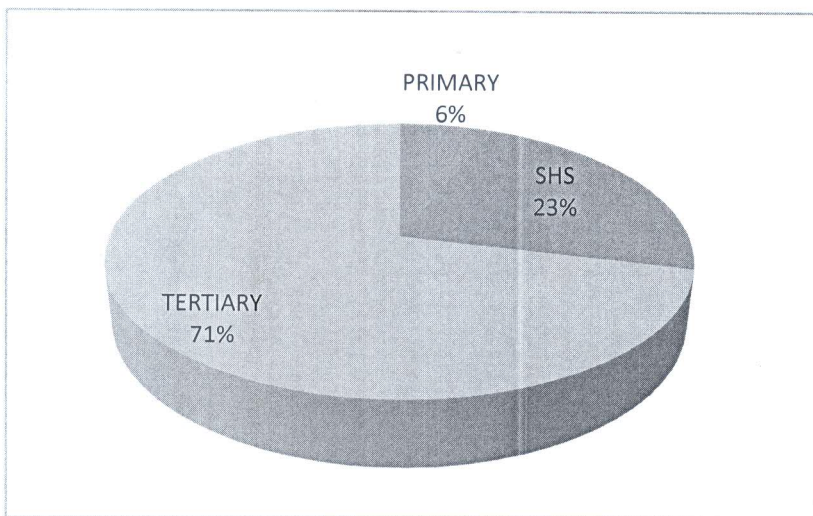
**PERSONAL DATA**

**Table 4.1 Ages of Respondents**

AGE OF RESPONDENTS	FREQUENCY	PERCENT
15-20	3	6.00%
21-25	11	22.00%
26-35	27	54.00%
36-40	5	10.00%
41 OR ABOVE	4	8.00%
<b>Total</b>	<b>50</b>	<b>100.00%</b>

From table 4.1 which displays the personal information, the ages of mothers ranged from 15-45 years and above. With majority of them falling within 26-25 years which was 54%, while four of them were aged 41 years or older.

**Figure 4.1: Educational Backgrounds**



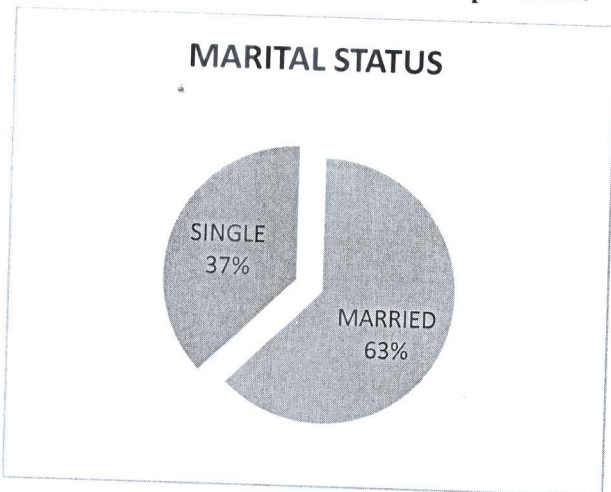
Among the respondents who had formal education, primary school level respondents were 3(6%), SHS recorded 11 (6%) of the respondents, tertiary level respondents were 35(70%).

**Table 4.2 Occupations of Respondents**

OCCUPATIONS OF RESPONDENTS	FREQUENCY	PERCENT
CIVIL SERVANT	26	56.52%
TRADER	12	26.09%
UNEMPLOYED	8	17.39%
Total	46	100.00%

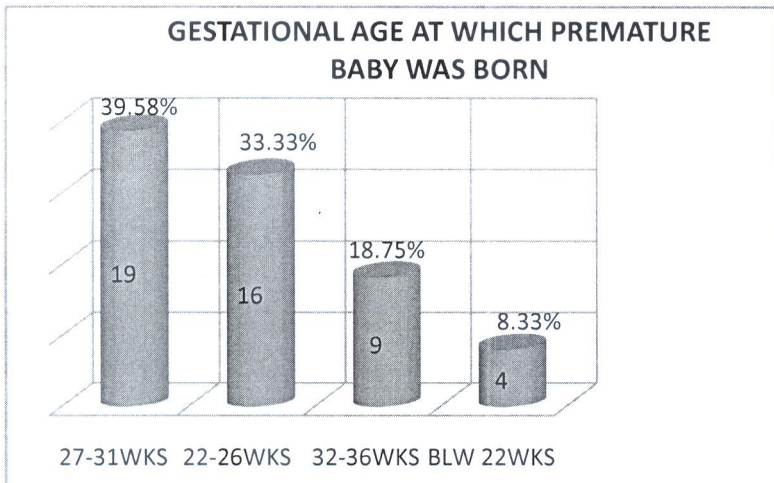
Most of the respondent mothers were civil servants (56.52%), 26.09% of the respondents were traders and unemployed respondent mothers were 17.39 %.

**Figure 4.2 Marital Statuses of Respondents**



More than half of the respondents being 63% were married while 37% were single

**Figure 4.3 Gestational Ages at Which the Premature Baby Was Born**



All the mothers gave birth to their babies before the 37<sup>th</sup> gestational weeks of pregnancy. As illustrated by chart, 39.58% gave birth between the 27<sup>nd</sup> and 31<sup>st</sup> week of pregnancy, 18.75% gave birth between the 32<sup>nd</sup> and 36<sup>th</sup> week of pregnancy. 33.33% gave birth between 22<sup>nd</sup> and 26<sup>th</sup> week of pregnancy and the remaining 8.33% gave birth below the 22<sup>nd</sup> week of pregnancy.

**Figure 4.4 Ages of Premature Babies by Their Mothers**

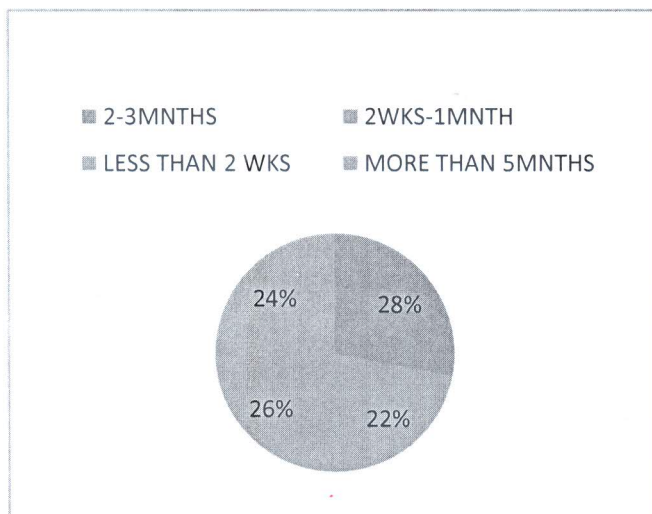
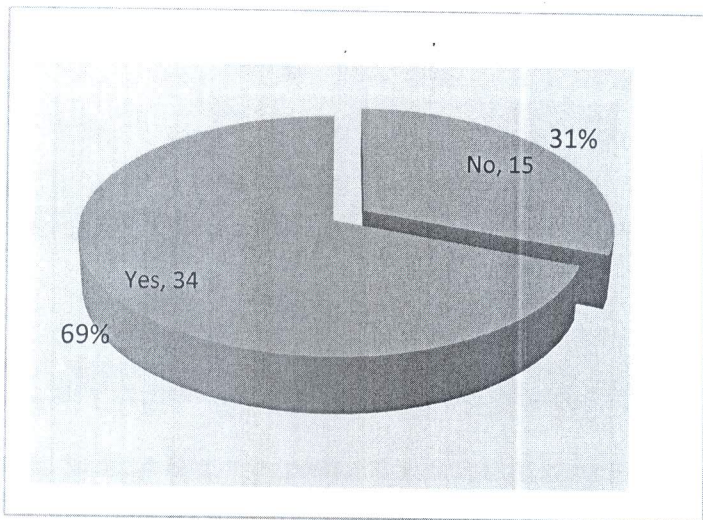


Figure 4.3 gives the ages of the premature baby by their mothers. 28% of premature babies are two to three months old, 26% are between two weeks to one month old, 24% are more than five months and 22% are less than two weeks old.

**Figure 4.5 Knowledge of Mothers on Premature Babies before Giving Birth**



From table 4.4 the above the respondents who answered to whether they had knowledge of premature babies before birth, 34 of the respondents (69%) had knowledge before birth while 15 (31%) did not have any knowledge on premature babies.

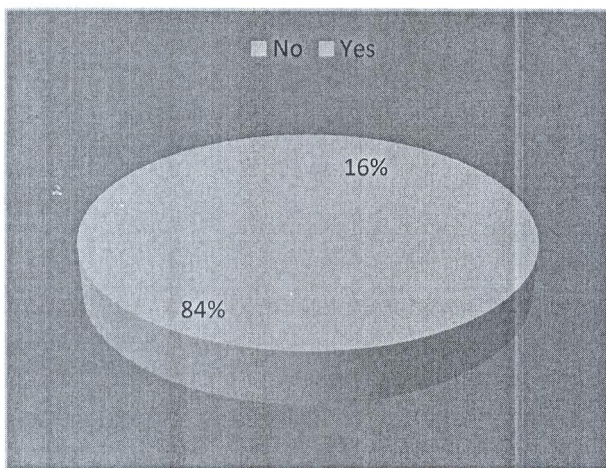
**Table 4.3 Causes of Premature Babies**

CAUSES OF PREMATURE BABIES	FREQUENCY	PERCENT
INADEQUATE PARENTAL CARE	8	17.78%
MATERNAL ILLNESS	21	46.67%
NO IDEA	10	22.22%
TWIN/MULTIPLE PREGNANCY	6	13.33%
<b>Total</b>	<b>45</b>	<b>100.00%</b>



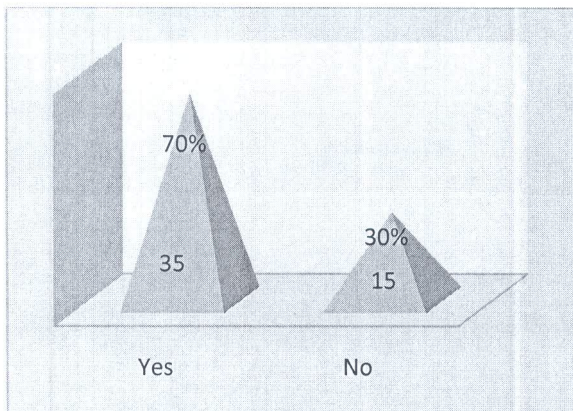
Table 4.3 indicates that causes of most premature baby births were maternal illness by 46.67% of respondents, twins or multiple pregnancies by 13.33% of the respondents, 17.7% of them also mentioned inadequate prenatal care. 22.22% of the respondents too on the other hand did not have any idea what the cause of premature births is.

**Figure 4.6 Survivals of Premature Babies**



The chart indicates that 84% of the respondents thought premature babies survived and 16% of the respondents thought that premature babies do not survive. However those who said no could not specify why what causes the death of premature babies.

**Figure 4.7 Knowledge on Premature Babies**



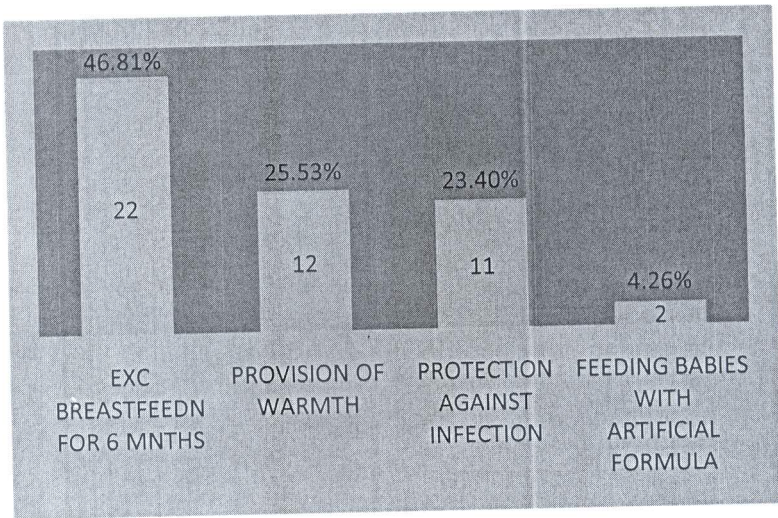
From the chart 35 (70%) of the respondents said they had knowledge about the care of premature babies which leads to their survival and 15(30%) said they had no knowledge about the care of premature babies that leads to their survival.

**Table 4.4 Care Rendered To Premature Babies**

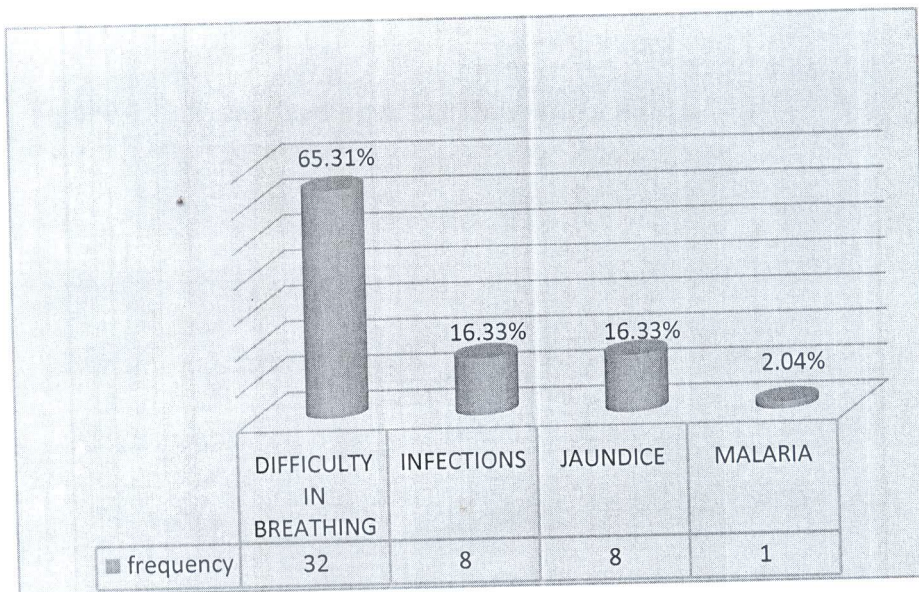
<b>IF YES TO QUESTION 11</b>	<b>FREQUENCY</b>	<b>PERCENT</b>
<b>FEEDING WITH BREAST MILK</b>	12	28%
<b>PREVENTING INFECTION</b>	10	14.1%
<b>PROVIDING WARMTH</b>	11	26.2%
<b>FEEDING WITH ARTIFICIAL MILK</b>	2	5.30%
<b>KANGAROO MOTHER CARE</b>	6	12.4%
<b>ADMINISTRATION OF DRUGS</b>	9	14.0%
<b>Total</b>	50	100%

Table 4.4 shows the contributing factors for survival of premature babies. It was identified that among the factors that affect the survival of premature babies, the following were mentioned by respondents; 12(28%) said that premature babies should be given breast milk, 2(5.30%) said that artificial milk should be used in feeding premature babies, 9(14.0%) mentioned the administration of appropriate drugs, infection prevention was mentioned by 10 (14.1%), warmth provision also score 11(26.2%) while finally kangaroo mother care was indicated as a factor for premature baby survival by 6(12.4%).

**Figure 4.8 Care for Premature Babies**

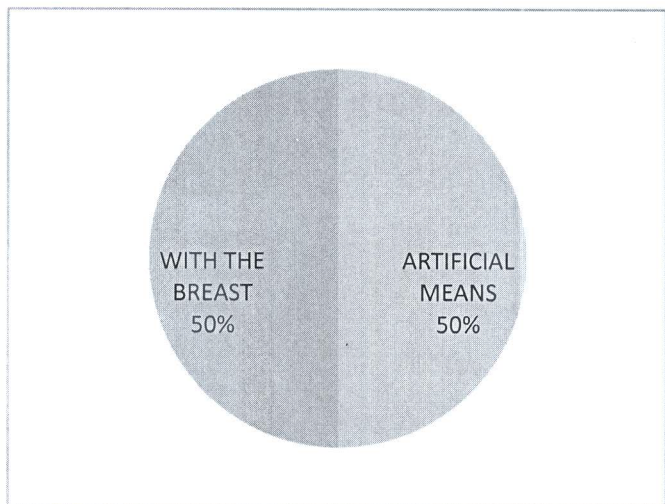


**Figure 4.9 Problems Experienced By Premature Babies**



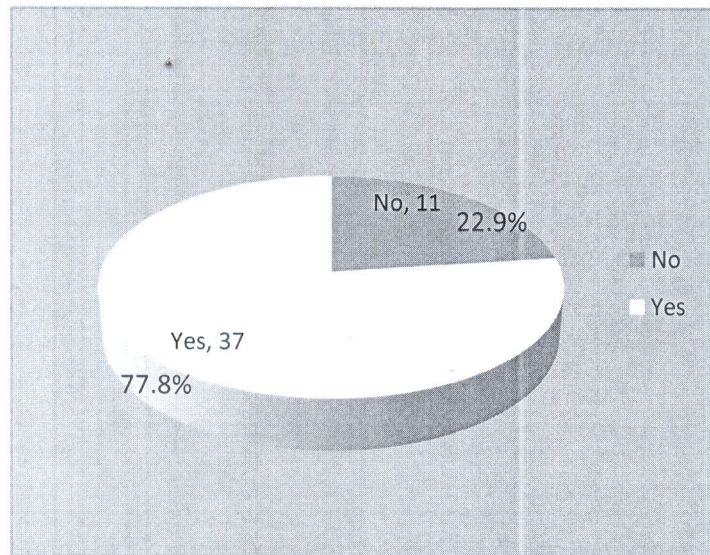
From figure 4.8 indicates that difficulty in breathing (65.31%) is the most problem premature babies experienced, jaundice and infections both recorded 16.33% of the problems of premature babies and malaria (2.04%).

**Figure 4.10 Means Of Breastfeeding the Premature Baby**



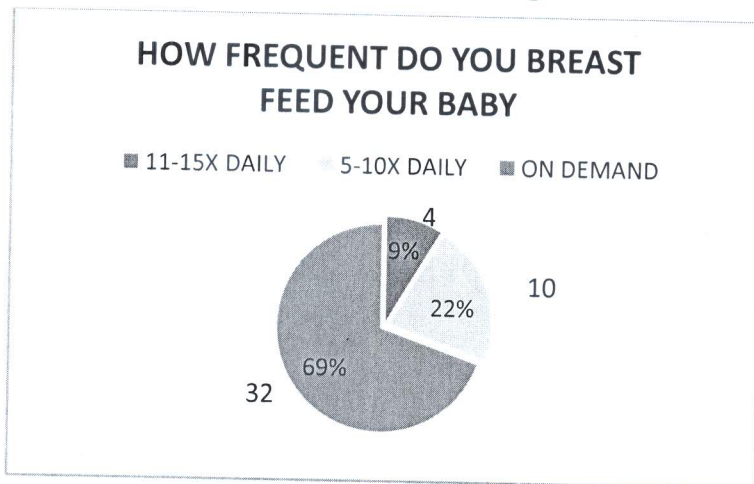
The means of feeding baby as was captured are, with the breast by 25 (50%) of the respondents, 25 (50%) used artificial means such as cup and nasogastric tube.

**Figure 4.11 Breastfeeding of the Premature Babies**



From the figure 37 (77.8%) of the mothers breastfeed their premature babies exclusively and 11 (22.9%) of mothers do not breastfeed their premature babies exclusively.

**Figure 4.10 Frequency of Breastfeeding**



Sixty-nine percent (69%) of the respondents fed their babies on demand, 10(22%) of them also do it 5-10 times daily, 4(9%) also feed their babies 11-15 times daily.

**Figure 4.12 Prevention of Infection**

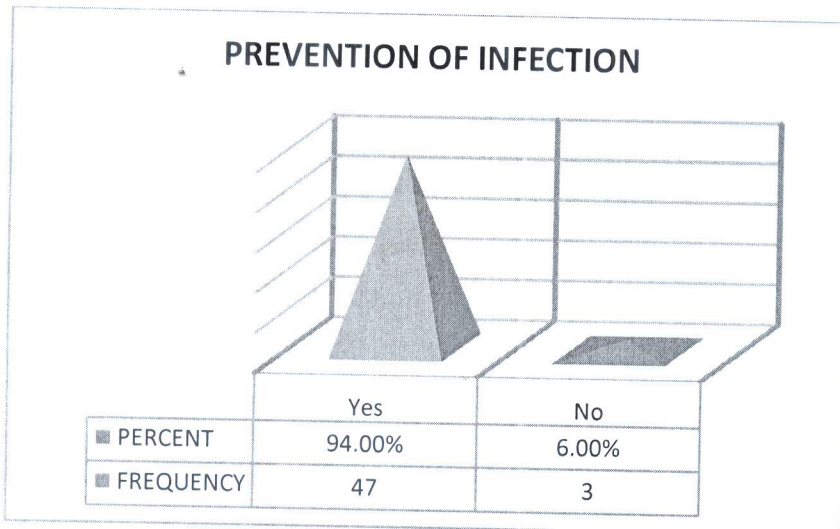


Figure 4.12 above present the opinions of respondents on whether prevention of infection was part of care of premature babies. Among the respondent sample, 47(94.0%) said that infection prevention was a care of premature babies while 3 indicated that it did not affect premature baby survival.

**Table 4.5 Measures to Prevent Infection**

<b>MEASURESTOPREVENTINFECTIONS</b>	<b>FREQUENCY</b>	<b>PERCENT</b>
<b>ALL</b>	7	14.29%
<b>BABYS PERSONAL HYGIENE</b>	21	42.86%
<b>CARE GIVERS PERSONAL HYGIENE</b>	15	30.61%
<b>ENVIRONMENTAL HYGIENE</b>	6	12.24%
<b>Total</b>	49	100.00%

Figure 4.5 displays the measures taken to prevent infection in premature babies. The responses given by were baby's personal hygiene by most of the respondents scoring a percentage of 42.86% which was the highest percentage attained. 12.24% of the respondents said that environmental hygiene had to be ensured to prevent infections.30.61% said caregiver's hygiene to prevent infection.14.29% choose all as a means of infection prevention to the baby.

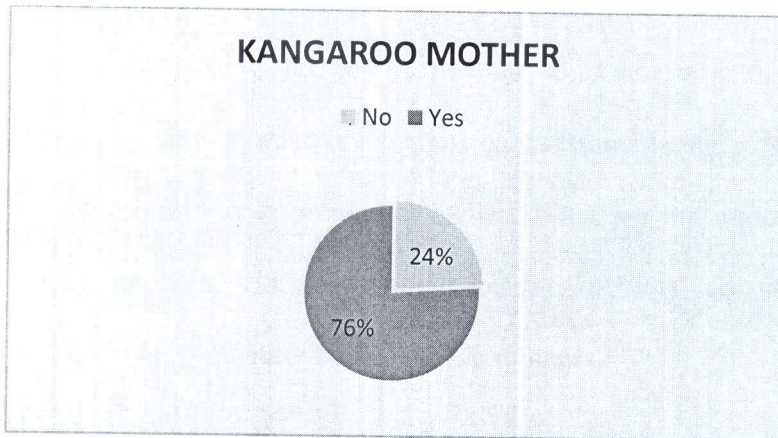
**Table 4.6 Provision of Warmth**

<b>PROVISIONOFWARMTHFORBABIES</b>	<b>FREQUENCY</b>	<b>PERCENT</b>
<b>CARRY BABY ON CHEST AS PRESCRIBED IN KANGAROO MOTHER CARE</b>	24	48.00%
<b>KEEP BABY UNCOVERED IN WARM ROOM</b>	3	6.00%
<b>WRAP BABY IN HEAVY CLOTH</b>	23	46.00%
<b>Total</b>	50	100.00%

With respect to the provision of warmth, most respondents being 24 (48%), perform kangaroo mother care to provide warmth, 23(46.00%) also said that they wrap their baby in heavy

clothing's and the least score was by respondents who uncovered baby in warm room by 3(6.00%) of the respondents.

**Figure 4.13 Kangaroo Mother Care**



Among the respondents who took part in the study, 38(76%) performed kangaroo mother care while 12(24%) did not.

**Table 4.7 Lighting System Good for Premature Babies**

LIGHTING SYSTEM GOOD FOR PREMATURE BABIES	FREQUENCY	PERCENT
BRIGHT LIGHT	24	50.00%
DIM LIGHT	23	47.92%
NO LIGHT	1	2.08%
<b>Total</b>	<b>48</b>	<b>100.00%</b>

Among the respondents, bright light was the light mostly chosen as good for premature baby care by 24 (50.00%), followed by dim light (47.92%) and lastly no light.

## CHAPTER FIVE

### DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Discussion

This is a section that analyses the result attained from data collection with reference to the literature review. As the aim of the study is to determine the pattern of care of respondents, the discussion aims to answer the research questions being, what is practice on nutrition provision among mothers with premature babies. What are the measures taken for infection prevention among mothers with premature babies? And what are the practices of mother in warmth provision for premature babies among mothers?

The demographic information that was retrieved from the respondents are, out of the fifty respondents 3(6%) were within ages 15-20 years, 11(22%) were aged 21-25 years, 54% of the respondents were aged 26-35 years old, respondents who were aged 36-40 years were 10% while 41years or older were 4 (8%). Among the occupational background, civil servants were the majority representing 56.52% followed by traders who represented 26.09%, the remaining 17.39% were unemployed. Thirty two of the respondents (63%) were married while 18 (37%) were single. Tertiary school level respondents were 35 (71%) which was the highest group recorded, Senior High school level respondents were 11(23%) while three of them (6%) were mostly primary school leavers. The analysed demographic information showed that most of the mothers were married, educated and working which reflected in the knowledge they had on the care they provided to their premature babies in terms of their feeding, prevention of infection and warmth provision.



All the mothers gave birth to their babies before the 37<sup>th</sup> gestational week of pregnancy. From 27-31 weeks recorded the highest that is 39.58% of the respondents. Below 22 weeks recorded the lowest with 8.33%

Most of the mothers had knowledge that their babies were premature since more than half of the mothers (69.0%) said so. This could have been that the mothers kept track of their pregnancy and were aware that the baby was not a term baby since it was delivered earlier than normal.

Among the respondents who responded to whether they had knowledge of premature babies before birth, 34 of the respondents (69.0%) had knowledge before birth while 15 (31.0%) did not have any knowledge on premature babies. Knowledge of premature prior delivery was high as half of the respondents had knowledge of premature birth, which could have been due to the fact that most of the respondent mothers were literate and have had tertiary education. Factors that lead to the cause of premature baby's birth were outline as maternal illness by 46.67% of respondents, twins or multiple pregnancies by 13.33% of the respondents, 17.78% of them also mentioned inadequate prenatal care. 22.22% of the respondents too on the other hand did not have any idea what causes premature births.

Mothers of premature babies were asked questions on the survival of premature babies, of which more than half of them (84%) indicated that the premature babies survive while 16% said that they do not survive. Each of their responses having been affected by the knowledge mothers had on premature baby survival that mostly bordered on the care of these premature babies. The knowledge on the care of premature babies was therefore assessed and the result attained indicated that less than half of the respondents (70%) had knowledge on the care of premature babies,

The care of premature babies was of prime importance to their survival; in Armstrong-schellenberg et al, (2007) the study of care of premature babies covered feeding, provision of warmth and prevention of infection, all of which had serious influence on their survival.

It was identified that among the factors that affect the survival of premature babies, the following were mentioned by respondents; 12(28%) said that premature babies should be given breast milk, 2(5.30%) said that artificial milk should be used in feeding premature babies, 9(14.0%) mentioned the administration of appropriate drugs, infection prevention was mentioned by 10 (14.1%), warmth provision also score 11(26.2%) while finally kangaroo mother care was indicated as a factor for premature baby survival by 6(12.4%).

Among the mothers, feeding was done by the breast as 25 (50%) of the respondents indicated and 25 (50%) used artificial means such as cup and nasogastric tube as the mothers said that breast milk was the best however due to the stress that comes along with giving birth to a premature baby. Breast milk is not always enough so artificial feeding is equally another alternative. Feeding was supposed to be having all the needed nutritional content that the premature baby was supposed to get, at the same time the feeding should be done under strict hygienic condition such that the risk of infection would be reduced if not fully eliminated. Breast milk is known to have the needed nutrients that promote the growth and survival of premature babies, this might have contributed to most of the mothers (77.8%) indicating that they gave their babies breast milk. A few did not feed their babies exclusively. In the study by Mrisho et al, (2008) exclusive breast feeding was identified to be the best for the care of premature babies as it

had the entire nutritional requirement for the proper and quick development of such infants. In this study there is an affirmation with (Mrisho M et al, 2008) <sup>Mrisho et al. (2008).</sup> study most of the mothers knew the importance of breastfeeding as most of them fed their babies with breast milk.

The nutritional requirement of premature babies prescribed that babies should be fed exclusively with breast milk since it had the needed antibiotics to fight infection. This knowledge might have caused most of the mother to exclusively feed their premature babies. With the urgency of providing the nutritional needs of premature babies, this might have caused mothers to feed their premature babies on demand as evidenced by 69% of them confirming this while those who could not feed on demand resorted to feeding 5-10 times by 22% of the respondents. Studies by (Mrisho M et al, 2008) also prescribed that feeding should be done in bits and frequently as child could not sustain much food in their system which calls for the need to feed frequently. This delivery by (Mrisho M et al, 2008) is in line with the findings of the research conducted as most of mothers fed their children on demand and 10-15 times daily.

The prime care for premature babies is enshrined in the practice of infection prevention or control. Most of the respondents (94%) in this study indicated that infection prevention was an integral part in the survival of premature babies and it is in line with the studies in Tanzania Mrisho M et al. (2008): In Ghana Tawiah-Agyemang et al. (2008) established the fact that the home management or care of premature babies is mostly affected by a wide variety of harmful condition such as the use of lanterns, early bathing and other inappropriate practices that go a long way to cause infection in the premature baby.

Following the prevention of infection in measures to be taken by respondents to prevent infection as outlined by mothers showed adequate knowledge as personal hygiene of baby score 42.86%, environmental hygiene had 12.24% while as little as 14.29% knew that the survival of the premature baby covered babies personal hygiene, care givers personal hygiene and environmental hygiene. It was indicated that hygiene was mostly one sided as most mothers did not consider other forms of hygiene such as environmental hygiene. The consideration of hygiene as indicated by Opondo et al. (2009) makes it clear that personal hygiene and that of the environment ultimately affected the care of the premature baby. In this study mothers also gave responses that affirm these findings, but the lapses identified are that most mothers who took part in this study did not show knowledge of all the areas of hygiene affecting the care of the premature baby.

The methods of provision of warmth as always used among mothers in the care of premature babies indicate they wrapped babies in cloth to provide warmth (46%). Also 24(48%) said that they carried their babies on their chest as prescribed by the kangaroo mother care. This result is indicative of the fact that the kangaroo mother care has not sunk into the system as intended. The kangaroo mother care is seen as the best means providing warmth for premature babies.

50% of the mothers said they use bright light in the provision of warmth while 47% of the respondents said they use dim light which is indicative that the respondents knowledge with regards to the lighting system good for the premature babies was encouraging.

In a study by Darmstadt et al. (2005) there was an indication that knowledge deficit of health workers that went at length to affect the knowledge of mothers who had premature babies. the practices of effective care is also affected since the right level of knowledge was available for the mothers especially in the provision of warmth for baby, the mainstay of the survival of premature babies.

## **5.2 Conclusions**

The research was conducted to assess the knowledge of mothers on the care of the premature babies with regards to what they are fed with, the number of times they are fed, and if exclusively on breast milk.

It also seeked to find out the various infection preventive measures employed by mothers to prevent the premature babies from infection with regards to the hygiene of the baby, care givers hygiene and environmental hygiene.

Provision of warmth to the premature baby was another question the research conducted was seeking the knowledge of the mothers on and what method they are adopting in the provision of warmth.

The research was conducted among fifty mothers with premature babies receiving care at the Kumasi south hospital. Convenient sampling technique with close ended questionnaires were use to collect data from the mothers.

On analysis of data it was identified that more mothers have prior knowledge of premature births as evidenced by the results recorded. The knowledge of nutrition needed for premature babies was also shown to be encouraging since majority of the respondents fed their babies exclusively and mainly on breast milk.

Warmth provision was encouraging since a good percentage of mothers indicated that they practice the kangaroo mother care which was the ultimate in provision of needed warmth for the care of the baby thereby promoting survival.

It was established that few of the mothers knew that the baby's hygiene, the caregiver's hygiene and the environment altogether affected infection prevention in the premature baby.

It was identified that most of the mothers knew that bright light is also good for premature babies who also promote their survival rate.

In summing up, education of mothers of premature babies had effect on the care they provided for their babies positively. However, they knew about the theoretical care but not with home based neonatal care practice.

### **5.3 Recommendations**

Based on the results in this study, recommendations given are that;

1. Health education should be intensified in the area of care for premature babies so that mothers would be able to give the best of care to their premature babies.
2. Follow-up visits should be intensified or review should be done such that the effective monitoring of the growth progress can be done for premature babies.
3. Pregnant women should be given education on premature birth such that if encountered would not be so new a case. This would make such mothers more prepared to care for the baby and enhance survival of the premature baby.

4. Risk factors and medical check-up should be patronized by mothers as they come for antenatal clinic during pregnancy aimed at waiving off any available premature births as much as possible.

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## APPENDIX

### CHRISTIAN SERVICE UNIVERSITY COLLEGE -KUMASI

#### DEPARTMENT OF NURSING

#### RESEARCH QUESTIONNAIRE ON MOTHERS' KNOWLEDGE ON THE CARE OF PREMATURE BABIES

**Dear Respondent,**

We are final year nursing students of Christian Service University College. We are conducting a study on mothers' knowledge on the care of premature babies. We have therefore designed this questionnaire to enable us obtain the needed information for its successful completion. The outcome of this study is for academic purposes only. You are also ensured of your privacy and confidentiality. We therefore encourage you to respond to the questions below with frankness and clarity. Please tick in the brackets provided as (  $\sqrt{\quad}$  ) if that is your answer and write on the dotted lines when giving additional information.

Thank you.

#### **Demographic data**

##### 1. Age

- a) 15-20years ( )
- b) 21-25years ( )
- c) 26-35years ( )
- d) 36-40years ( )
- e) 41yrs or above ( )

7. Age of premature baby

- a) Less than two weeks ( )
- b) 2weeks to 1month ( )
- c) 2-3months ( )
- d) 4-5months ( )
- e) More than 5 months ( )

8. How did you know that your baby is premature?

- a) Through the nurse ( )
- b) Through the doctor ( )
- c) Through personal knowledge ( )
- d) Other, please specify.....

9. Did you have any knowledge about premature babies before you gave birth to this baby?

- a) Yes ( )
- b) No ( )
- c) If yes, please specify.....

10. What are the causes of giving birth to a premature baby?

- a) Maternal illness ( )
- b) Twin or multiple pregnancy ( )
- c) Inadequate prenatal care ( )
- d) No idea ( )
- e) Other, please specify.....

11. How should premature babies be fed?

- a) With the breast ( )
- b) With artificial means e.g. cup and nasogastric tube ( )

12. What should premature babies be fed with?

- a) Breast milk ( )
- b) Formula feed ( )
- c) Breast milk and complementary feed ( )
- d) Other, please specify.....

13. Do you breastfeed your child exclusively?

- a) Yes ( )
- b) No ( )

14. How frequently do you feed your child?

- a) On demand ( )
- b) 5-10 times daily ( )
- c) 11-15 times daily ( )
- d) Other, please specify.....

15. Do you think premature babies survive?

- a) Yes ( )
- b) No ( )

15 b. Give reasons for your answer.

.....  
.....

16. Do you have any knowledge about the care of premature babies which leads to their survival?

- a) Yes ( )
- b) No ( )

16 b. If yes, tick the appropriate care that should be rendered to premature babies.

- a) Feeding of babies with breast milk ( )
- b) Feeding of babies with artificial milk ( )
- c) Administration of drugs ( )
- d) Preventing infections ( )
- e) Providing warmth ( )
- f) Kangaroo mother care ( )
- g) Other, please specify.....

17. What can be done as part of the care rendered to premature babies as a mother?

.....

18. Should prevention of infection be included in the care of premature babies?

- a) Yes ( )
- b) No ( )

18 b. If yes, skip to the next question

If no, give reasons.....

19. What measures are taken to prevent infections in a premature baby

- a) Baby's personal hygiene ( )
- b) Care givers' personal hygiene ( )
- c) Environmental hygiene ( )
- d) Other, please specify.....

20. What do you think should be done to promote the survival of premature babies?

.....

21. How do you provide warmth for your baby?

- a) Wrap baby in heavy cloth ( )
- b) Keep baby uncovered in a warm room ( )
- c) Carry baby on the chest as prescribed in the kangaroo mother care ( )
- d) Other, please specify.....

22. Do you perform Kangaroo mother care at home?

- a) Yes ( )
- b) No ( )

22 b. If no, why.....

23. What kind of problems do premature babies have?

- a) Difficulty in breathing ( )
- b) Jaundice ( )
- c) Malaria ( )
- d) Infections ( )
- e) Others, please specify.....

24. Is noisy environment bad for premature baby?

- a) Yes ( )
- b) No ( )

25. What lighting system do you think is good for premature babies?

- a) Bright light ( )
- b) Dim light ( )
- c) No light ( )

26. What causes the death of premature baby?

- a) Gestational breathing and birth weight ( )
- b) Difficulty in breathing ( )
- c) Inadequate care at the health facility ( )
- d) Jaundice ( )
- e) Malaria ( )