CHAPTER 1

INTRODUCTION

1.1 Background Information

Psychological distress is a general term used to describe unpleasant feeling or emotions that impact on the level of functioning (Willian, 2014). It is the psychological discomfort that interferes with the person's activities of daily living. The signs and symptoms include sadness, feeling overwhelmed and thoughts of suicide (William, 2014; Hospice and Palliative Nurses Association, 2011) among others Psychological distress can result in negative view of the environment, others, and the self and its effects can negatively impact on the mother, the baby and the family.

Having a preterm baby has been found to be one of the contributing factors to psychological distress (March of Dimes, 2012). According to Lynn et al (2012), mothers with preterm babies experience more severe levels of psychological distress in the postnatal period than those with full term babies. WHO, (2012) defined preterm birth as all births before 37 completed weeks of gestation or fewer than 259 days since the first day of a woman's last menstrual period. It can be further sub-divided based on gestational age, where extremely preterm birth refers to babies born before 28 weeks of gestation, very preterm birth, are babies born between 28 and 32 weeks of gestation and moderate preterm births are babies born between 32 and 37 completed weeks of gestation (WHO, 2012). Preventing preterm birth remains a challenge because the causes of preterm births are numerous, complex, and poorly understood (CDC, 2013). Parents can do all they can to prevent preterm birth but it can still occur (March of Dimes, 2012).

Mothers who have just given birth undergo an enormous amount of psychological distress resulting from the transition into motherhood. However, mothers of preterm babies undergo added stress and emotional volatility due to baby's hospitalization into the Neonatal Intensive Care Unit. They worry about the health of baby, the prognosis and fear that their baby may struggle with lifelong complication due to prematurity.

Additionally, many mothers of preterm babies also feel guilty about the circumstances of the delivery and ashamed that they were unable to carry the baby to term (Barr, 2012). As already stated psychological distress can negatively impact on the mother, the baby and the family.

On the mother of preterm baby, psychological distress can influence all aspects of her life, which can impact on her functioning (William, 2014). Singer (2012) revealed that mothers of preterm babies were more psychologically distressed than mothers of term infants. A mother who is psychologically distressed may find it difficult to concentrate on tasks such as daily life routine or any assignment given to them because they easily get distracted (William, 2014). According to Marshall (2011) it can lower the immune system, resulting in increased susceptibility to various infections and can also reactivate latent virus, and impact on immune-regulatory circuits. Further, psychological distress has been associated with high cardiovascular stress reactivity, including increased heart rate, blood pressure and cardiac output in non-cardiac patients and with reduced heart rate recovery and incidence of ventricular arrhythmia (Denollet e al, 2014). In mothers with coronary heart disease, psychological distress can lead to greater cortisol reactivity and to increased awakening and daytime cortisol level (Denollet et al, 2014). According to Maes et al, (2011) psychological distress significantly increases the production of tumour cells, thereby putting the mothers at the risk of developing cancer. Most mothers with psychological distress have reported post-traumatic symptoms, fatigue, withdrawal and feeling of guilt (Garel et al, 2004). Psychologically distressed mothers parenting a preterm baby if at school age have been reported to exhibit poor concentration on education and hence may not attain their education goals (Singer et al, 2007). Even low level of psychological distress can cause considerable adverse effects on the mother's health (William, 2014).

Effects on the baby may include stress and sadness among others (Shaw, 2014). The growth and development of preterm infants is also affected by the mother's psychological distress because it contributes to risks of breastfeeding failure and lactation associated morbidities through hormonal responses that prevent the development and release of breast milk, thereby denying the baby the much-needed nutrients for growth and development (Zanaedo et al, 2011). Mother's psychological distress has effects on the baby's growth. This effect is often regarded as a risk factor for child abuse and maltreatment in later life.

The psychologically distressed mothers with preterm babies are more likely to have a distorted interaction with the baby thereby producing dismay and distress in the infant (WHO, 2004).

According to Mappas (2008), cuddling preterm babies by their parents reduces pain felt by babies resulting from painful medical procedures. Psychologically distressed mothers are unable to effectively cuddle their young infants hence their babies miss out on benefits of pain reduction through cuddling. The babies also miss out on parental bond, which is regarded as the top benefit of cuddling. Similarly psychological distress may affect the mother's relationship with her spouse as she may be experiencing difficulties in relating to the partner (William, 2014). The social life of a distressed mother is also affected in the sense that she may no longer want to spend time with friends and may not be able to relate to peers as before (William, 2014). Mothers of preterm babies play a major role in the care and subsequent survival of their newborn baby. However, psychologically distressed mothers of preterm babies may not be able to effectively care for their young ones this can affect baby's growth and development including survival (March of Dimes, 2012). This study therefore, intended to explore factors that are associated with psychological distress among mothers with preterm babies in the Neonatal Care Unit at the University Teaching Hospital in Lusaka, Zambia.

1.2 Statement of the Problem

Psychological distress in mothers of hospitalized preterm babies is a global health concern (March of Dimes, 2012). It is estimated that 15 million babies are born too soon globally every year. This means that about 15 million mothers are most likely to undergo psychological distress globally and translates into to more than one in 10 mothers likely to have psychological distress worldwide, with around 1 million children dying each year due to complications of preterm birth (WHO, 2012). The emotional distress resulting from the experience of giving birth to a preterm infant and the subsequent neonatal unit hospitalization may be a traumatic experience for parents. Mothers of preterm babies exhibit high levels of psychological distress than those with full term babies (Holdich et al 2013) In Zambia the rates of premature births are between 10 and 15 per cent (WHO, 2012). On average the University Teaching Hospital (UTH) admits about 180 preterm babies in the Neonatal Intensive Care Unit (NICU) per month. During the first three quarters of 2016, 1,502 preterm babies were hospitalized to NICU (UTH, 2016). At least 1,502 mothers are at risk of experiencing psychological distress during this period.

Table 1: Number of hospitalization due to preterm births by year

Year	Number of hospitalization
2016 (1st 3 quarters)	1,502
2015	1,805
2014	1,720
Total number of hospitalization	5027

The number of hospitalization increases by year

Mortality is expected to be about 68 percent of all admitted preterm babies (UTH, 2014). It follows therefore that the emotional distress resulting from giving birth to a preterm infant and the subsequent neonatal unit hospitalization may be a traumatic experience for parents.

Bener (2013) described psychological distress among mothers of preterm infants and the associated factors as a neglected public problem. The evidence that mothers of preterm babies are either psychologically distressed or at are at risk of psychological distress is worrisome especially considering the effects described above. Psychological distress negatively impact on the mother, the baby and the family (Singer, 2012). It can lower the immune system Marshall (2011) It is associated with high cardiovascular diseases (Denollet e al, 2014), It increases the production of tumour cells, Maes et al, (2011). It contributes to risks of breastfeeding failure (Zanaedo et al, 2011). It is with this background that a study to explore factors associated with psychological distress among mothers of preterm at WNH NICU was conducted.

1.3 Justification of the Study

Bener (2013) revealed that psychological distress is a neglected public health problem. This could be the case of mothers nursing their preterm babies at the Mother and Newborn Hospital NICU. Ministry of Health (2013) report shows that on average about 1676 mothers nurse their preterm babies in NICU annually. The mothers walk about 400 meters from the mothers' annex to the NICU every two hours day and night to feed their babies.

Each mother is supposed to be on time because they have 30 minutes in which to feed the baby. According to studies this scenario contributes to psychological distress arising from nursing hospitalized babies (March of dimes, 2012). Johnson et al, (2005); Melnyk et al., (2006) and Karatzias et al (2007) revealed that while studies on psychological distress among mothers of hospitalized preterm babies have been conducted world over, factors associated with psychological distress are not well established in Zambia. The study finding will provide empirical evidence of the existence of psychological distress of mothers of hospitalized preterm infants. The findings of this study will also be used to develop strategies that foster improvement in the way mothers care for their premature babies that may include strengthening the social support systems. It is envisaged that the study findings will bring a unique contribution to maternal and childcare and also mental health and will help to identify protective factors, such as maternal coping, that may reduce maternal psychological distress and consequently may enhance parenting and improve child outcomes for this high-risk (HR) population. Findings will also create awareness among health care providers on the negative effects of psychological distress so that they can respond to parents' emotional needs appropriately.

1.4 Conceptual Framework

This study used pearlin's stress-process model of stress in carers (Pearlin et al, 1990). The model was applicable in the factors associated with psychological distress among mothers with preterm babies at the MNH Neonatal Intensive Care Unit. It guided the study by investigating the background factors, primary stressors, secondary stressors, and mediating variables to understand their impact on psychological distress. The model was designed to assess the informal caregiving processes affecting caregiver health.

The model was generally applicable to all caregiving situations (Myers, 2003). It depicted four domains of the stress process. The first domain was the background and context of the stress. The domain includes factors such as socio-economic, family network and personal history. The age, gender, race, education level and marital status of the caregiver was described as components under this factor. All these factors were associated to psychological distress.

The construct of background/context was included to address the setting in which caregiving takes place, with emphasis on the social and economic characteristics of the family. Socioeconomic resources helped to contain the extent to which a patient's condition becomes burdensome. The socioeconomic factors were determined using measures of parental education, occupation and family income (American Psychological Association, 2016). Personal history had two components, the number of health conditions, and the caregiver relation type. The second and third domains were conceptualized as primary and secondary in nature. The second domain was the primary stressor.

Pearlin and colleagues defined stressors as the problematic conditions and difficult circumstances experienced by caregiver that strain or supersede the individual's capacity to adapt (Pearlin et al 1990). The primary stressors are linked directly to the individual receiving care.

There are three components in this domain, recipient behavior, recipient care needs and the subjective stress. In this domain, diagnosis, length of time since diagnosis, depressive behaviors, and problems with activities of daily living are said to contribute to psychological distress on the carer. The third domain was the secondary role strains.

The stressors arise from the demands of the caregiving role itself. The potential proliferation effects of the stress involved in the caregiving role highlight the existence of a complex stress process (Myers, 2003). The domain included factors such as family conflict, financial problems, and constriction of social interaction. These factors are said to contribute to psychological distress in the caregiver. The fourth domain was the secondary intra-psychic strains. These were described as strains that damage the self-esteem sense of control or self-identity (Myers, 2003).

The model also describes mediators that link the background and context to primary stressors, secondary role strains and the outcome. The mediators determine how people are impacted differently by the same stressors and may help to sustain the caregiver and lessen the effects of stressors. The mediators included; the internal coping resources and social support. The mediators played a role in determining stress. The model also described the outcomes of the process. The manifestations are wellbeing, physical and mental health and the caregivers' ability to sustain their own social roles (Myers, 2003).

Pearlin and colleagues recognize that the inter-relationships among these domains and indeed factors change and develop over time. It was useful to think of caregiver stress not as an event or as a unity phenomenon. It is instead, a mix of circumstances, experiences, responses and resources that vary considerably among caregivers and that, consequently, vary in their impact on caregivers' health and behavior. The mix is not that a change in one of its components can result in a change in others. Pearlin et al (1990) found that long-term caregiving depletes social support resources and reduces perceptions of control. Pearlin's stress-process model of stress in carers (Pearlin et al, 1990) fitted very well in the study. As stated earlier the model was designed to assess the informal caregiving processes affecting caregiver's health.

Lin (2016) defined informal caregiving as help and support that caregivers, usually family members and friends, provide to assist individuals who are unable to function independently. In the study the caregivers were mothers of preterm babies. The premature babies were unable to function independently. As stated earlier the model was also generally applicable to all caregiving situations (Myers, 2003).

Most components in the first domain of the model namely social support health history, age, gender, race, education level and marital status were hypothesized in the study as contributing factors to psychological distress. The type of relation the caregiver had with the patient was identified to have a bearing on psychological distress. In the study the mother were closely related to the baby as a result she was more likely to experience psychological distress.

The primary stressors in the second domain were identified as components that are related to the person who was provided with the care. As stated earlier the components are the diagnosis, length of time since diagnosis, depressive behaviors, and problems with activities of daily living. All these components were suggested in the study as contributors to psychological distress. The diagnosis of prematurity, usually preterm babies remain in the NICU for a long period of time and also the condition of the baby and the machines are depressive to the mother (March of Dimes, 2012). The fact that the baby completely depends on the mother and the health care team, contributed to psychological distress (March of Dimes, 2012). This has been cited both in the study and the model.

In the third domain factors such as family conflict, financial problems, and constriction of social interaction were enlisted as contributing factors to stress. All these factors were suggested by the study as contributing factors to psychological distress in the caregiver. The fourth domain was the secondary intra-psychic strains. These were described as strains that damage the self-esteem sense of control or self-identity (Myers, J. E. 2003). Separation from the baby and the medical team providing most of the care to the baby makes mother feel their role as mothers has been taken by the health care team. This feeling contributes to low self-esteem (Lynn et al 2012). It is stated in the model that mediators play a role in determining stress coping resources and one of the components of the mediators was social support. Social support as stated early was one of the variables studied in this study. Finally the caregiver's wellbeing, physical and mental health was described as the outcome of the process.

It was suggested in the study that psychological distress had negative effects on the caregiver's health, among others lowered immune system (Marshall 2011), heart diseases (Denollet e al, 2014) and high risk to cancer, Maes et al, (2011). Pearlin's stress-process model of stress in carers, Pearlin et al (1990) was used to guide this study.

1.4.1 Diagrammatic application of Pearlin's stress-process model in Psychological distress

Figure 1: Pearlin's stress-process model

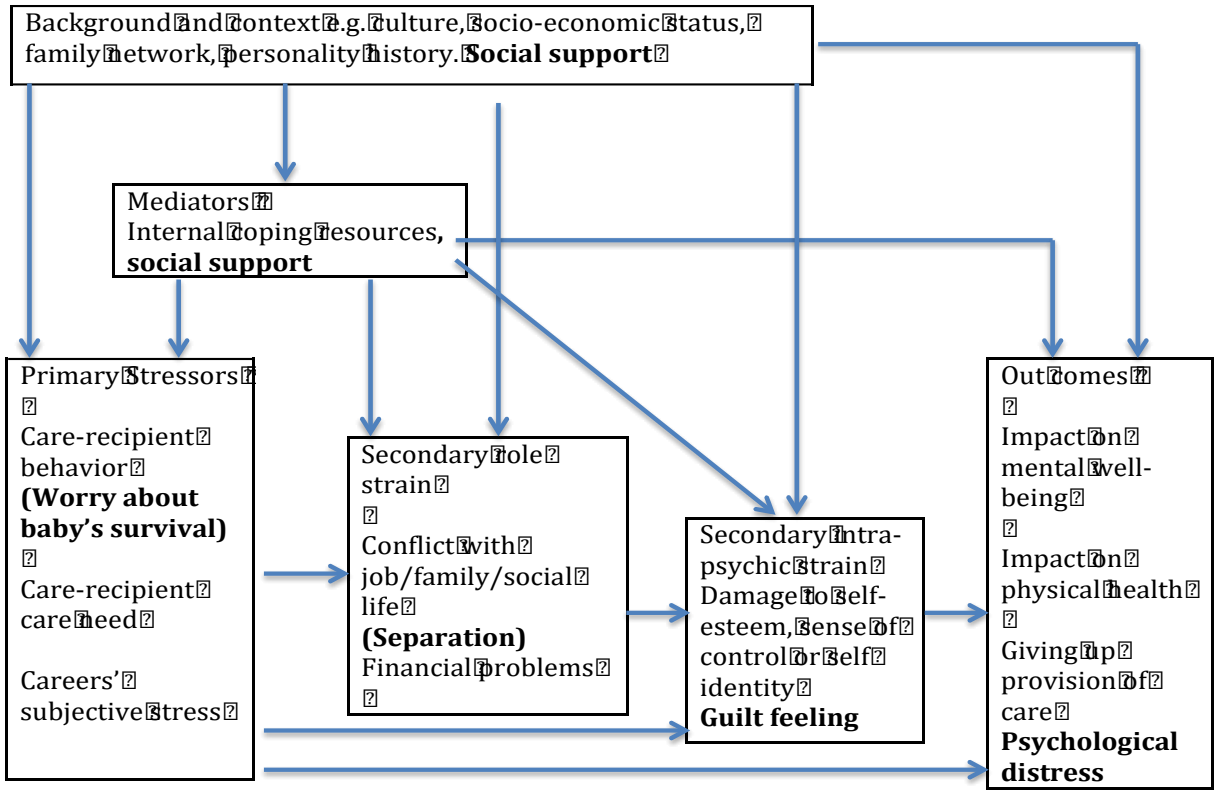

Figure 1 above is the Pearlin's stress-process model of stress in careers (adapted from Pearlin et al, 1990)

1.5 Research Question

What factors are associated with psychological distress among mothers with preterm babies at the Women and Newborn Hospital (WNH) NICU?

1.6. Objective

1.6.1 General Objective

To explore factors associated with psychological distress among mothers with preterm babies at WNH, NICU Zambia.

1.6.2 Specific Objectives

1. To determine whether worry about survival of the baby contributes to psychological distress.
2. To determine whether separation from the baby contributes to psychological distress.
3. To establish whether the feeling of guilty contributes to psychological distress.
4. To establish whether social support contributes to psychological distress.

1.7 Hypothesis

1.7.1 Null Hypothesis

1.7.2 Psychological distress is not related to the following; Social support, worry about baby's survival, separation from the baby and guilty feeling.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter provides a review of some research studies related to Psychological distress arising from nursing preterm babies hospitalized in the NICU. A literature review is an evaluative report of information found in the literature related to the selected area of study. According to Hart, (2015) the review should describe, summarize, evaluate and clarify related literature, and should give a theoretical base for the research and help the author determine the nature of their research. The purpose of literature review is to identify what is already known about an area of study, identify questions a body of research does not answer and to make a case for why further study of research questions is important to a field (Gardson, 2015). The focus of literature review for this study was factors associated with psychological distress in mothers of hospitalized preterm babies.

According to Bener (2012) who conducted a study to determine psychological distress among postpartum mothers of preterm infants and associated factors, more than 55 percent of mothers who participated in the study had some form of psychological distress. The same study revealed that mothers of preterm babies were more at risk of depression than those who had full term babies. In the same vein, Martina (2004) revealed that premature birth of an infant and the following neonatal intensive care, cause psychological distress and can have a traumatizing effect on parents even up to 18 months after their infant's discharge from the hospital. Parents of preterm babies described painful memories of the postnatal period. Some mothers further described memories of NICU as unpleasant and intrusive. Unresolved psychological trauma may result in a posttraumatic stress disorder, which may have negative, long-term impact on parental wellbeing, attitude, and behavior (Holdich et al 2013).

2.2 Social support

Hartley (2011) writing from South Africa revealed that the strongest predictor of psychological distress was lack of social support. The study showed that about 39 Percent of the mothers with psychological distress lacked social support. This study was in agreement with Comijs (1998) who revealed the association between social support and psychological distress. On the other hand good social support showed a favorable effect of on the level of psychological distress.

It was therefore concluded that the beneficial role of social support, locus of control, and perceived self-efficacy on the level of psychological distress could be of importance in the development of future intervention programs (Comijs, 1999). Similarly, Chey's (2016) study revealed that having higher levels of trust and feeling safe were consistently associated with low levels of psychological distress. The results clearly demonstrate that having trust in people, feeling safe in the community and having social reciprocity are associated with lower risk of mental health distress. In addition, Wallander (2016) revealed that more than 60 percent of mothers who had low social support showed significant psychological distress.

The study by Shekhar et al indicates that the incidence of mental disorder and the need for care are highest among poor people in rural communities. Furthermore, studies in Ethiopia and other parts of Africa have indicated that risks of psychological distress are highest among the poorest, the least educated, and the unemployed (Abbo, 2008). In a study that consisted of prepared socio-demographic questions comprising items on age, gender, marital status, tribe, religious affiliation, educational attainment, number of children, gainful employment, household income in Uganda shillings, whether in debt or not and whether respondents had slept without food for lack of it at least once in the past month, it was found that among other social support indicators, persons who had lacked food at least once in the past month or who were in debt were twice as likely to be distressed. This study found that some indicators of socio-economic status (being in debt, sleeping hungry because of lack of food) were significantly associated with psychological distress (Abbo, 2008). Mcloyd, conducted a study in 1990 in Mchigan where he found that from 346 people with some form of social support problem who were interviewed and he found that 311 had some form of psychological distress.

He thereafter concluded that a major mediator of the link between economic hardship and parenting behaviors was psychological distress deriving from an excess of negative life events, undesirabl chronic conditions, and the absence from disruption of marital bonds (McLoyd 1990). Psiquiatr (2013) noted that mothers with lower monthly household income were more depressed than those with good social support (Psiquiatr in 2013).

The prevalence of postpartum depression among the study sample was 17.6%. Mothers of age above 35 years with low education below intermediate level and housewives with low monthly income were significantly at high risk for postpartum depression (Berner 2013). This prevalence of postpartum depression in women living in Qatar was comparable to previous epidemiological research done in developing countries. Financial difficulties, prematurity, lack of family support, and poor marital relationships have been identified as main risk factors for developing postpartum depression. This study agrees with that conducted by Psiquiatr.

2.3 Guilt feeling

Guilt feelings have been identified as contributing to psychological distress as highlighted by Eisenberg's (2000) the study revealed an association between quilt feelings and psychological distress. It has been documented that parents felt guilty about the circumstances of the delivery and ashamed that they were unable to carry the baby to term, and that guilt, but not shame contributed to psychological distress (Barr, 2012). Adnan (2013) agreed with Barr (2012) and stated that it was important to realize that many parents of premature infants felt some guilt, even if they took excellent care of themselves during pregnancy. Mothers who have had excellent prenatal care, who have watched their diet, and who have neither smoked nor drank alcohol may still have premature babies. This guilty feeling contributes to Psychological distress. Garal (2007) administered a Semi-structured interview to 21 mothers of preterm babies one year following discharge from the hospital. He found out that all the 21 women associated their psychological distress to guilty feelings. Similrly, Valizadah (2014) interviewed 11 mothers of hospitalized preterm babies in Iran. Of the 11 mothers, four mothers felt guilt that they caused premature birth because they could not bring their babies to full term. According to Shin (2004), mothers experience guilt feelings because they feel they are responsible for giving birth to an unhealthy baby. These feelings of guilt contribute to mothers' psychological distress. Bennett, (2013) stated in his study of mother of preterm babies that it was common for moms to feel it is their fault when their baby is born early.

2.4 Worry about baby's survival

Worry about the health and survival of the preterm baby has been implicated as one of the contributing factors to psychological distress. Miles (1999), found that all of the mothers who took part in his study attributed uncertainty of the baby's survival to their psychological distress. They indicated having worried about their premature babies' health and often feared that their babies would not survive. Many mother have been found to develop increased levels of psychological distress wondering what the outcome will be and if their child will struggle with lifelong complications as a result of being born early (Barr, 2012). Callery (2000) also revealed that worry about the baby's survival among others was a contributing factor to psychological distress. Pediatr, (2014) conducted a study to examine the inter-relationships of different types of emotional distress due to infant appearance and behavior in the Neonatal Intensive Care Unit (NICU). 177 African American biological mothers of preterm infants weighing less than 1500 gm at birth or requiring mechanical ventilation took part in the study. The study revealed that during infant hospitalization in NICU, mothers experience high levels of multiple types of psychological distress and that preterm infants hospitalization lead mothers to fear the infant may not survive and grieve over the infant's immaturity. Further emotional distress due to prematurity affects maternal perception of their children and parenting quality.

In addition, 70 percent of the women who were worried about the survival of the baby developed psychological distress. Holditch et al (2015) in a similar study found that 80 percent of women had psychological distress related to worry about their babies survival while Brooks (2015) revealed that psychological distress has also been associated with the appearance and size of the premature infant; alterations in expected parenting roles, including extended periods of separation and reduced opportunities to hold or interact with the infant (Shriber, 2004; Holditch, 2000). Furthermore, uncertainty about the infant's medical condition; and feelings of disappointment, sadness, helplessness, and worry about infant survival and health have all been reported to increase maternal psychological distress (Brandon et al., 2011; Holditch-Davis & Miles, 2000; Miles et al., 2002; Shin & White-Traut, 2007; Trause & Kramer, 1983). On the other hand, Diana et al (2014) states that psychological distress may be due to the loss of the parental role during infant hospitalization and worry about infant health or survival and leads to heightened anxiety, depression, and post-traumatic stress.

2.5 Separation from the baby

Chey, (2016) revealed that separation from the baby was a contributing factor to mother's psychological distress. Physical separation from the baby is one of the mechanisms that increase the risk of parental distress (Flacking, at el 2012). According to Perm (2013), who conducted a study to determine factors that contributed to psychological distress among postpartum mothers of preterm infants, of the 119 women who were recruited in the study 104 (81 percent) attributed their psychological distress to separation from the baby.

2.6 Conclusion

The literature reviewed has shown association between psychological distress among mothers of hospitalized preterm babies and social status, quilt feeling, separation of the baby from the mother and worry about baby's survival. However it is noted that most of these studies were conducted in developed countries. The setup, environment and stressors in developed countries may be different from those in Zambia. The purpose of this study is to assess if social status, quilt feeling, separation of the baby from the mother and worry about baby's survival are associated with psychological distress in our Zambian perspective and settings.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Research methodology refers to the manner of collecting data (Burn and Grove, 2005). The purpose of the current study is to determine factors associated with psychological distress among mothers of preterm babies hospitalized at The University Teaching Hospital. In this chapter, study design, study setting, study population, sample size, data collection tool, validity, reliability, data collection technique, pilot study and ethical consideration have been discussed.

3.2 Study Design

It was a non-interventional descriptive cross sectional quantitative study. The study is a cross sectional because information was obtained from different mothers of hospitalized preterm babies only once without going back to them. The information obtained provided a picture of the state of mothers of hospitalized preterm babies as supported by Polit and Beck, (2008).

The study is a non-interventional study design because data were collected without introducing treatment. It is also a descriptive study because the study observed, described and documented aspects of psychological distress and factors associated with it in mothers/ caretakers of hospitalized preterm babies. The study was a quantitative because data were quantified in numerical values and percentages to facilitate statistical inferences. Description and analysis of data was on factors associated psychological with distress among mothers/caretakers of hospitalized preterm babies in the NICU at WNH.

3.3 Study Setting

The study was conducted at the NICU in the ward and mothers waiting from at WNH, Lusaka, Zambia. The NICU mostly admits neonates, both preterm and term, delivered at UTH and the surrounding outlying areas of Lusaka and Central provinces within a radius of about 50-100 kilometers from the Lusaka urban Central Business District.

3.4 Study Population

The study population were mothers of preterm babies who met the inclusion criteria. A target population was the entire set of individuals who meet the sampling criteria (Burn and Grove, 2005).

3.5 Target population

The target population in this study were all mothers with hospitalized preterm babies in NICU at WNH. An accessible population is a portion of the target population, might be elements within a state, city, hospital or nursing unit (Burn and Grove, 2005). The accessible population were mothers of preterm babies available in NICU during the time of study.

3.6 Accessible population

This is the population that is readily available to the researcher and that represents the target population as closely as possible (Fain, 2018). The accessible population included mothers of preterm babies hospitalized at WNH NICU whose babies have be on the ward for more than five (5) days at the time the study.

3.7 Study variables

Dependent variable was Psychological distress

Independent variables were; Social support, worry about survival of the baby, separation from the baby and guilt feeelings.

Table 2: Shows Variable, Indicator and Scale of measure

Independent	Scale of measurement	Dependent
Social support	Categorical	Psychological Distress
Separation	Categorical	
Worry about baby's survival	Categorical	
Guilt feeling	Categorical	

3.8 Sampling

3.8.1 Sampling method

Respondents in the study were selected using a systematic sampling in order to give all the mothers of preterm babies who met the inclusion criteria an equal chance to be selected in the study. The WNH NICU was selected as a study site because it was where most mothers of hospitalized preterm babies were found because it was a tertiary hospital and it covered the largest catchment area.

Systematic sampling is a non-probability sampling method that includes respondents in the study because they happen to be at the right place at the right time and the researcher has seen it necessary for the respondents to take part in the study. The respondents will be entered into the study until the desired sample size is reached (Burn and Grove, 2005).

3.8.2 Sample Size

Sample size is a small part of the population selected in such a way that the individual in the sample represents as near as possible the characteristics of the population (Polit &Hungler, 2007)

Mothers of preterm babies meeting the criteria were consecutively enrolled to the study until the sample size of 123 is reached. The sample size was calculated using the formula.

3.8.3 Sample Size Calculation

The sample size was calculated using the following formula

$$n = \frac{Z^2 \times P \times (1-P)}{d^2}$$

Where P = 0.5 is the proportion/prevalence since it's not known

1-P = 1-0.5 = 0.5

Z = 1.96 is the standard normal variate at 95% confidence level

d = ±5% = ± 0.05 is the precision

$$\text{Therefore } n = \frac{1.96^2 \times 0.5 \times 0.5}{0.05^2}$$

= 384

We now adjust for population size of 90/month X 2 months= 180. This is the final sample size Final n calculated as follows.

Final n = $\frac{n}{1 + n/N}$ where n is the calculated sample size using proportions

N is the population size being adjusted for

Therefore Final n = $\frac{384}{1 +384/180}$ $\frac{384}{3.133}$ = 123

3.8.4 Inclusion Criteria

a) Caretakers/parents of preterm babies hospitalized at MNH NICU
b) Have been in NICU for more than 5 days.

3.8.5 Exclusion Criteria

Excluded from the study were:

a) Mothers of preterm babies who were depressed because they would not give accurate information

3.9 Data Collection

3.9.1 Data Collection Tool

In this study a structured interview schedule was used to collect data. A structured interview schedule is a questionnaire that is read for the respondents (Burns & Groove, 2005).

As already indicated above an interview schedule was used to collect data. The interview schedule was sub divided into five sections as follows: section A: social-demographic data, section B: Assessment for the presence of psychological distress, Section C: Social support section D: Separation from the baby, Section E: Guilt feeling, Section F Worry about the baby's survival. Edinburgh Post Natal Depression Rating Scale was used to assess the presences of psychological distress.

3.9.2 Validity

Validity refers to the degree to which the instrument will measure what it is supposed to measure (Polit and Beck, 2008). To ensure the quality of data collection instrument, it is important to establish its validity and reliability. Validity was upheld with the tool used that reflected the factors under study. Validity of the instrument was measured by justifying each question in relation to the objective of the study. To avoid ambiguity, the questions were written in simple and clear language. They were precise and asked in the same order to ensure uniformity. Probes and prompts were on the same questions to ensure validity and if a respondent did not understand a question, it was simply repeated to them.

3.9.3 Reliability

The interview schedule was prepared in such a way that it had sections with different questions measuring the same characteristics. The reliability of the instrument was measured by conducting a pilot study. The pilot study was conducted at Women and Newborn Hospital. The results from the pilot study were used as baseline data to test reliability. No adjustments were be made to the instrument.

3.10 Data Collection Technique

In this study, the respondents were interviewed from the NICU using a structured interview schedule (Appendix 1). The interviews were conducted face to face. The researcher and the research assistants introduced themselves to the respondents and the purpose of the interview was explained. The participants who accepted to take part in the study signed an informed consent form. Each candidate was interviewed within the NICU for 30 to 40 minutes. The interview was conducted between 08:00hrs and 16:00hrs. At the end of the interview, the researcher thanked the participants.

3.11 Pilot study

The pilot was conducted among mothers of hospitalized preterm babies at WNH NICU. The pilot study included 10% of the actual study. It was done to evaluate the effectiveness of the tool to collect the needed data. No modification was done on the tool as it was effective.

3.12 Ethical Considerations

Ethical clearance was sought and granted from the University of Zambia Biomedical Research Ethics Committee for the study. All information collected from the neonate's parent/caregiver was treated with the utmost confidentiality. Case records were kept in lockable drawers on the ward. The study methodology and objectives were communicated to the neonate's mothers of preterm babies in the language they best understood. The participants were informed that participation was voluntary and that they were free to withdraw from the study anytime they wished to and their withdrawal would not affect their stay in the hospital and treatment at the NICU. The interview was conducted in a private place to uphold confidentiality. Respondent anonymity was achieved by using the number and not the real names. A private well ventilated room and a chair was provided to the respondents for comfort. Counseling services were available for respondents who were stressed.

3.11 Limitations of the Study

Some respondents may have found it difficult to bring out information on the worry of the baby's survival when they were separated from the baby due to the fact that the interviewer was part of the medical care team, this limitation was minimized by creating rapport and assuring the respondents of confidentiality and encouraging them to participate fully and freely. The study was only conducted in the NICU where mothers are separated from their babies. There was need to conduct the study in the wards were Kangaroo baby care was practiced in order to make comparison.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION OF FINDINGS

4.1 Introduction

This chapter describes procedures used to analyze data and presentation of findings. In this study a total of one hundred and twenty three (123) mothers of preterm babies hospitalized in the NICU in UTH participated in the study by answering questionnaires. The results have been presented in frequency tables and cross tabulations according to variables

4.2 Data Analysis

The aim of the study is to determine psychological distress and its associated factors of the mothers with preterm babies in the Neonatal Intensive Care Unit at the UTH. Data will be collected using interview schedule on 186 respondents. The results were presented under the following heading demographic data, Social support, worry about baby's survival, separation from the baby and guilty feeling. Data was analyzed using SPSS Version 20.0, Chi-square Test and Binary Logistic regression. The Confidence Interval will be set at = 95% with the P. Value of = < 0.05. Following data collection, questionnaires and checklists were sorted-out and checked for internal consistency, completeness, legibility and accuracy. The groups were then assigned numerical codes. The codes were assigned to each category, then entered and analyzed using Statistical Package in Social Science (SPSS) version 20 (Burn and Grove, 2016). Chi-square test was used to test the association between the dependent and independent variables. The dependent variable was psychological distress while independent variables included worry about the baby's survival, separation from the baby, guilty feeling and social support. Therefore, only p-value of less than or equal to 0.05 was considered to be statistically significant.

4.3. **Presentation of Findings**

The findings of this study have been presented in form of frequency and cross tabulation tables. The frequency tables were used to communicate research findings while the cross tabulations are helpful in showing relationships between variables. Section A of the self-administered questionnaire represented the demographic characteristics of the respondents while section B contained psychological distress, social support, guilt feelings, worry about survival of the baby and separation.

4.3.1 **Demographic Data**

The interview schedule consisted of the respondents' socio-demographic data which included age, marital status, occupation of the husband, religion, education level, monthly income, number of children, age of the youngest child, delivery site and the one who conducted the delivery and days spent in the neonatal ward. These variables were chosen because they were the ones considered to have an effect on mother's psychological distress. The results are presented in the frequency table below.

4.4 Psychological Distress

Table 3.1: Shows responses on questions on Psychological distress n=123

Variable	Category	**n (%)**
Have been able to laugh or happy	As much as i always could	4 (3.3)
	Not quite so much now	109 (88.6)
	Definitely not so much now	9 (7.3)
	Not at all	1 (0.8)
I have looked forward with enjoyment to things	As much as i ever did	6 (4.9)
	Rather less than i used to	98 (79.7)
	Definitely less than i used to	17 (13.8)
	Hardly at all	2 (1.6)
I have blamed myself unnecessarily when things went wrong	Yes, most of the time	1 (0.8)
	Yes, some of the times	93 (75.6)
	Not, very often	22 (17.9)
	No, never	7 (5.7)
I have been anxious or worried for no good reason	No, not at all	3 (2.4)
	Hardly ever	34 (27.6)
	Yes, sometimes	84 (68.3)
	Yes, very often	2 (1.6)
I have felt scared or panicky for no very good reason	Yes, quite a lot	6 (4.9)
	Yes, sometimes	95 (77.2)
	No, not much	21 (17.1)
	No, not at all	1 (0.8)
Things have been hard and unbearable	Yes, most of the time	2 (1.6)
	Yes, sometimes	101 (82.1)
	No, not much	19 (15.4)
	No, not at all	1 (0.8)

Table 3.2 **Shows responses on questions on Psychological distress n=123**

Variable	Category	**n (%)**
Have been so unhappy that i have had difficulty sleeping	Yes, most of the time	4 (3.3)
	Yes, sometimes	91 (74.0)
	Not very often	19 (15.4)
	No, not at all	9 (7.3)
I have felt sad or miserable	Yes, most of the time	3 (2.4)
	Yes, sometimes	95 (77.2)
	Not very often	21 (17.1)
	No, not at all	4 (3.3)
I have been so unhappy that i have been crying	Yes, most of the time	9 (7.3)
	Yes, quite often	81 (65.9)
	Only Occasionally	10 (8.1)
	No, never	23 (18.7)
The thought of harming myself has occurred to me	Sometimes	30 (24.4)
	Hardly ever	18 (14.6)
	Never	75 (61.0)

According to table 4.2a, most respondents (88.6%) were not able to laugh or be happy quit much now, 7.3 percent did not laugh or be happy so much, 3.3 percent were able to laugh or be happy as always while 0.8 percent was not even able to laugh or be happy at all.

The majority of participants (79.7%) looked forward to enjoying things less than they used to, 13.8 percent less than they used to, 4.9 percent as much as they ever did while only 1.6 percent hardly at all.

Further, 68.3 percent of the respondents had been sometimes anxious or worried for no good reason while 2.4 percent have never been anxious or worried at all. On the other hand 77.2 percent of the respondents sometimes felt scared or panicky for no very good reason and 4.9 percent felt scared or panicky for no very good reason quite a lot, while 0.8 percent did not feel scared or panicky for no very good reason at all. Additionally, most of the respondents (82.1%) indicated that things have been hard and unbearable sometimes, 1.6 percent most of the times while 15.4 percent not much while 0.8 percent said not at all. The majority of the respondents (74%) had been sometimes so unhappy that they had difficulties in sleeping, 3.3 percent were unhappy that they had difficulties in sleeping most of the time while 7.3 percent did not experience this unhappiness at all.

4.5 Social support

Table 3.3 Shows responses on questions on Social Support n=123

Variable	Category	**n (%)**
What is the employment status of your next of kin?	Employed with a wage	64 (52.0)
	Self – employed	48 (39.0)
	Out of work and looking for a job	11 (9.0)
How they classified their family income?	Very adequate	4 (3.3)
	Adequate	102 (82.9)
	Inadequate	17 (13.8)
How they considered their household to be	Poor	7 (5.7)
	Moderately poor	109 (88.6)
	Not poor	7 (5.7)

The majority of the respondents (88.6%) considered their households to be moderately poor, 5.7 percent considered theirs to be poor while another 5.7 percent considered theirs not to be poor.

Table 3.4 **Shows responses on questions on Social Support**

How they rate the support they receive from their family	Highly supportive	26 (21.1)
	Supportive	81 (65.9)
	Not supportive	16 (13.0)
How many times does their family visit them in a week	More than 5 times	4 (39.8)
	More than 3 times	65 (52.8)
	About once	8 (6.5)
	None	1 (0.8)
What is their source of energy for cooking	Electricity	37 (30.1)
	Charcoal	71 (57.7)
	Fire wood	15 (12.2)
What is their economical status?	Middle class	10 (8.1)
	Low class	113 (91.9)

In terms of family support, most respondents (65.9%) rated their families as supportive, while 21.1 percent rated theirs as highly supportive. Thirteen percent of the respondents rated the support from their families as not supportive. In terms of frequency of visits in a week, the majority (52.8%) of the respondents reported being visited by their families more than 3 times, 39.8 percent reported being visited more than 5 times, 6.5 percent reported being visited about once and 0.8 percent reported no visits from family members at all.

Concerning the number of meals their families had per day, 80.5 percent reported having 2 meals, 12.2 percent reported having 3 meals or more, while 7.3 percent reported having one meal.

Table 4.2c. Most of the respondents (57.7%) had charcoal as their source of energy for cooking, 30.1 percent had electricity, while 12.2 percent had firewood as their source of energy for cooking. Most respondents (91.9%) described their economic status as low class while 8.1 percent described it as middle class.

On the type of housing unit, the majority (78.0%) described the type of their housing units as mixed, 13 percent described them as improved traditional, 6.5 percent described them as conventional flats, 1.6 percent described them as traditional houses while 0.8 percent described the housing units as conventional houses.

4.6 Guilt feelings

Table 3.5: Shows responses on questions on Guilt feelings n=123

Variable	Category	**n (%)**
They feel ashamed of themselves that they could not bring the baby to term	All the times	1 (0.8)
	At times	56 (45.5)
	Not at all	66 (53.7)
They felt they were the cause of the premature birth	All the times	1 (0.8)
	At times	60 (48.8)
	Not at all	62 (50.4)
They felt that there are things they could have done better	All the times	2 (1.6)
	At times	57 (46.3)
	Not at all	64 (52.0)

On whether they felt ashamed of themselves that they could not bring the babies to term, 53.7 percent of the respondents did not feel ashamed while 45.5 percent felt ashamed at times

About half of the respondents (48.8%) felt they were the cause of premature birth at times while the other half of the respondents (50.4%) did not feel that they were the cause of their baby's premature birth. A small proportion (0.8%) felt that they were the cause all the time.

On whether they felt that there were things they could have done better, majority of the respondents (52.0%) did not feel so, 46.3 percent felt that at times' and 1.6 percent felt that all the time

Table 3.6: Shows responses on questions on guilt feelings

Variable	Category	**n (%)**
They regret some things they have done	All the times	1 (0.8)
	At times	56 (45.5)
	Not at all	66 (53.7)
They felt people blame them for premature delivery	At times	48 (39.0)
	Not at all	75 (61.0)
Have experienced Panic attacks	All the times	2 (1.6)
	At times	101 (82.1)
	Not at all	20 (16.3)

Most respondents (53.7%) said they had no regrets on some things they had done, 45.5% said at times' and 0.8% said all the time'.

On the question on whether they felt people blamed them for the premature deliveries, majority (61.0%) did not feel so while 39.0 percent felt people blame them. In addition, most of the respondents (82.1%) reported suffering panic attacks at times and 1.6 percent reported suffering them all the times while 16.3 percent of the respondents reported not suffering the attacks at all.

4.7 Worry about survival of the baby

Table 3.7: Shows responses on questions on worry about survival of the baby

Variable	Category	n (%)
They have Anxiety	All the times	4 (3.3)
	At times	103 (83.7)
	Not at all	16 (13.0)
Experience Hot and Cold flushes	All the times	4 (3.3)
	At times	57 (46.3)
	Not at all	62 (50.4)
Experienced Tightening of the chest	All the times	1 (0.8)
	At times	34 (27.6)
	Not at all	88 (71.5)

A further 83.7 percent of respondents reported having anxiety at times, 3.3 percent reported having it all the times while 13.0 percent of the respondents reported not having it at all.

It is also noted that in table 4.4 above that majority of the respondents (50.4%) reported not having hot and cold flushes at all while 46.3percent reported having them at times and 3.3 percent reported having them all the times.

About 72 percent of respondents (71.5%) reported not experiencing tightening of the chest at all, 27.6 percent reported having the experience at times while 0.8 percent reported having the experience all the times.

Table 3.8: Shows responses on questions on worry about survival of the baby n=123

Variable	Category	**n (%)**
Experienced Quick breathing or restlessness	All the times	2 (1.6)
	At times	26 (21.1)
	Not at all	95 (77.2)
Felt tense or excessive fear	All the times	3 (2.4)
	At times	32 (26.0)
	Not at all	88 (71.5)
Worried that the baby may not survive	All the times	1 (0.8)
	At times	30 (24.4)
	Not at all	92 (74.8)
Went through obsessive thinking	All the times	3 (2.4)
	At times	14 (11.4)
	Not at all	106 (86.2)

Seventy-one point five (71.5%) percent reported not experiencing quick breathing or restlessness at all, 21.1% reported having the experience at times while 1.6% reported having the experience all the times. On whether they had felt tense or excessive fear, most respondents (71.5%) said they did not at all while 26.0% said, at times and 2.4% said all the times'.On whether they had worried that the babies might not survive, only 24.4% said at times they had this worry while most respondents (74.8%) did not even worry.

On whether they had gone through obsessive thinking, the majority (86.2%) did not go through obsessive thinking while 2.4% went through it all the times.

4.8 Separation from the baby

Table 3.9: Shows responses on questions on separation from the baby n=123

Variable	Category	**n (%)**
Felt reluctant to go when visiting time is over	Most of the times	5 (4.1)
	Some time	110 (89.4)
	Not at all	8 (6.5)
Felt persistently anxious to visit the baby	Most of the times	13 (10.6)
	Some time	107 (87.0)
	Not at all	3 (2.4)
They have persistent and excessive worry when away from the baby	Most of the times	9 (7.3)
	Some time	111 (90.2)
	Not at all	3 (2.4)
They felt reluctant or refused to leave the baby when visiting time was over	Most of the times	8 (6.5)
	Some time	111 (90.2)
	Not at all	4 (3.3)
They felt something bad or possible harm can happen to the baby when they are away	Most of the times	5 (4.1)
	Some time	88 (71.5)
	Not at all	30 (24.4)
They have repeated nightmare involving the theme of separation	Most of the times	3 (2.4)
	Some time	80 (65.0)
	Not at all	40 (32.5)

Table 3.10: Shows responses on questions separation from the baby n=123

Variable	Category	**n (%)**
They felt their role as a mother had been taken away from them	Most of the times	3 (2.4)
	Some time	86 (69.9)
	Not at all	34 (27.6)
Felt like clinging to their baby when visiting time was over	Most of the times	11 (8.9)
	Some time	111 (90.2)
	Not at all	1 (0.8)
Being away from their baby distresses them	Most of the times	9 (7.3)
	Some time	104 (84.6)
	Not at all	10 (8.1)
They experienced some anxiety when separated from the baby	Most of the times	3 (2.4)
	Some time	82 (66.7)
	Not at all	38 (30.9)

On whether they felt reluctant to go when visiting time was over, 89.4% of the respondents said 'yes, sometime and 4.1% said 'yes, most of the times' while 6.5% said 'not at all'.

Most respondents (87.0%) reported feeling persistently anxious to visit the baby sometimes and 10.6% reported feeling the anxiety most of the times while 2.4% reported not feeling the anxiety at all.

Most respondents (90.2%) reported having persistent and excessive worry when away from the baby sometimes and 7.3% reported worrying most of the times while 2.4% reported not feeling the anxiety at all.

The majority of the respondents (90.2%) reported feeling reluctant or refusing to leave the babies when visiting time was over sometimes and 6.5% reported being reluctant most of the times while 3.3% reported not being reluctant at all. On whether they felt something bad or possible harm could happen to their babies when they were away, the majority (71.5%) of the respondents said 'yes, sometimes' and 4.1% said 'yes, most of the times' while 24.4% said 'not at all'.

On whether they had repeated nightmares involving the theme of separation, most respondents (65.0%) said 'yes, sometimes' and 2.4% said 'yes, most of the times' while 32.5% said 'not at all'. On whether they felt their role as mothers had been taken away from them, the majority (69.9%) of the respondents said 'yes, sometimes' and 2.4% said 'yes, most of the times' while 27.6% said 'not at all'.

On whether they felt like clinging to their babies when visiting time was over, 99.2% of the respondents agreed, with 90.2% saying 'yes, sometimes' and 8.9% saying 'yes, most of the times' while 0.8% of the respondents said 'not at all'. On whether being away from their babies distressed them, 91.9% of the respondents agreed, with 84.6% saying 'yes, sometimes' and 7.3% saying 'yes, most of the times' while 8.1% of the respondents said 'not at all'.

On whether they had experienced anxiety when separated from their babies, 69.1% of the respondents agreed, with 66.7% saying 'yes, sometimes' and 2.4% saying 'yes, most of the times' while 30.9% of the respondents said 'not at all'.

Relationship between dependent and independent variables

Table 3.11: Frequency distribution of baseline variables by psychological distress among mothers with preterm babies at NICU.

Characteristic	Mother with PD (n=89)	Mothers without PD (n=34)	P value
Age ≤25 years ≥26 years	 45 (82.3%) 44 (50.2%)	 28 (17.7%) 6 (49.8%)	**0.002***
Married No Yes	 2 (2.3%) 87 (97.7%)	 20 (58.8%) 14 (41.2%)	**0.0001***
Husband working No Yes	 21 (8.2%) 68 (23.6%)	 3 (91.8%) 31 (76.4%)	**0.04***
Education level ≤Primary ≥secondary	 52 (76.7%) 37 (58.3%)	 26 (23.3) 8 (41.7%)	0.07
Employed No Yes	 31 (38.6%) 58 (34.6%)	 13 (61.4%) 21 (65.4%)	0.09
Income ≤500 ≥500	 19 (38.3%) 70(21.8%)	 13 (61.7%) 21(78.2%)	0.06
Number of Children ≤2 ≥3	 32 (80%) 57 (68.6%)	 8 (20%) 26 (31.4%)	0.20
Place of delivery Not Health facility Health facility	 9 (57.4%) 80 (74.7%)	 7 (43.6%) 27 (27.2%)	0.12

The table **3.11** above revealed that mothers who where 25 years old or below had psychological distress with a P Value of 0.002, those who were married had psychological distress with a P value of 0.001 and those whose husbands or guardians were working had psychological distress with the P Value of 0.04. However, the level of education, occupation, income and place of delivery was not associated with PD

Table 3.12: Distribution of factor variables of psychological distress among mothers with preterm babies at NICU

Characteristics	Mother with PD (n=89)	Mother without PD (n=34)	p-value
Social support			
No	39 (78%)	11 (22%)	0.31
Yes	50 (68.4%)	23 (31.6%)	
Survival of the baby			
No	18 (45%)	22 (55%)	**<0.0001***
Yes	71 (85.5%)	12 (14.5%)	
Separation from the baby			
No	26 (47.3%)	29 (52.7%)	**<0.0001***
Yes	63 (92.6%)	5 (7.4%)	
Guilty feeling			
No	34 (73.3%)	12 (26.7%)	0.83
Yes	55 (71.4%)	22 (28.8%)	

The table 3.12 above reveals that worry about the survival's survival and separation from the baby contributed to psychological distress with P-Values of 0.0001 while social support and guilt feeling was not associated with PD with P-Value of more than 0.05

Table 3.13: Multiple logistic model, adjusted for baseline characteristics

	Univariate			Multivariate		
Factor variable	OR	95% CI	P value	OR	95% CI	P value
Social support No Yes	1 1.93	1 (1.09 – 4.34)	1 **0.04***	1 1.89	1 1.67 – 4.02)	1 0.09
Survival of the baby No Yes	1 4.72	1 (3.19 – 7.53)	1 **0.001***	1 3.86	1 (2.97 – 6.08)	1 **0.009***
Separation from baby No Yes	1 3.99	1 (3.03 -5.23)	1 **0.002***	1 2.89	1 (2.02 – 4.55)	**1** **0.01***
Guilty feeling No Yes	1 1.04	1 (0.94 – 2.11)	1 0.12	1 0.98	1 0.87 – 1.51	1 0.23

Ref category=1, OR= odds ratio, CI= confidence interval

The table 3.13: above shows that, after multiple regression, worry about the survival's survival and separation was found to be associated with psychological distress with P-Values of 0.009 and 0.01 respectively while social support and guilt feeling was not associated with PD with P-Value of more than 0.05

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.1 Introduction

The study was exploring factors associated with psychological distress in mothers of preterm babies hospitalized at the UTH NICU. Psychological distress was assessed using the Edinburgh Postnatal depression scale. Four (4) factors were assessed for association namely social support, guilt feeling, worry about survival of the baby and separation from the baby. The sample size was 123 mothers and a structured interview schedule was used to collect data.

5.2 Variables associated with psychological distress

5.2.1 Psychological Distress

The results of this study revealed that 89/123 (72%) of mothers with hospitalized premature babies in MNH NICU were psychologically distressed. These results are the same as those of Lynn et al (2012), who stated that mothers with preterm babies experience more severe levels of psychological distress in the postnatal period than those with full term babies. These results was also supported by a study conducted by Bener (2012) whose study revealed that mothers of preterm babies were more at risk of depression than those who had full term babies. (Marshall 2011, March of Dimes 2012 and WHO, 2014) also obtained similar results and stated that stress of pregnancy, labour and delivery is worsened by hospitalization. The results of this study were similar to many other studies conducted in different parts of the world possibly because the process of labour and childbirth is similar and so is the process of hospitalization.

5.2.2 Social Support

The finding of this study revealed that social support was not associated with psychological distress. However studies conducted within the region by Hartley (2011) in South Africa, Abbo, (2008) and Chey's (2016) in Ethiopia and also in other regions of the world by Mcloyd (1990) in The United State of America revealed that social support was the strongest predictor of psychological distress.

The finding of this study did not agree with all these finding may be because Zambians are usually very support and families and communities are more linked to each other. Further Zambia been a Christian nation, people take social support as one of the obligations of believers of Christ. To validate these assumptions, further studies should be conducted at a different health facility to assess the association between psychological distress and social support.

5.2.3 Worry about Survival of the Baby

The current study results showed that there was an association between worry about survival of baby and psychological distress with P-Value = 0.01. These results were in agreement with findings of studies conducted elsewhere in the world. Pediatr, (2014) writing from America revealed that worry about the survival of the baby was associated with psychological distress, studies done in the same country by Barr, (2012) obtained the same results. Studies conducted in others parts of Africa Holditch et al (2015) revealed that worry about the survival of the baby was associated with psychological distress. The findings of the current study are similar with findings in different parts of the world may be because mothers are generally caring especially that there could be that bound with the baby. Hospitalization and the medical machines such as incubators and monitors may also have contributed to mothers worrying about the survival of the baby. This assumption is supported by March of Demis (2017). It could be important that ways to reduce this kind of worry are sort in order to reduce psychological distress among mothers of hospitalized preterm babies.

5.2.4 Separation from the baby

This study results revealed that, there is a strong positive correlation between separation of the baby from the mother and psychological distress with the P Value of 0.009 these results are in agreement with finding of the research conducted by Chey, (2016), Flacking, at el (2012) and Perm (2013). The findings are similar in most of the regions of the world because parenthood and parenting is the same. Mothers feel their role of parenting has been taken away from them when they are separated from their neonates. This feeling may be source of distress. Usually leaving a young infant in the hands of a stranger can be stressful. There is need of a study to compare stress level between mothers who are separated from their neonates and those who were not.

5.2. 5 Guilt Feeling

The multiple logistic model showed that guilt feeling did not contribute to psychological distress unlike studies conducted by (Barr, 2012), Adnan (2013) Garal (2007) Bennett, (2013) Valizadah (2014) that concluded that feelings of guilt contribute to mothers' psychological distress. The findings of this study were different from those of studies conducted elsewhere in the world may be because the reasons for premature births are different in different regions. The other reason could be because most respondents in this study were not carrying the babies to term. There is need to conduct the study to establish relationship between guilt feeling and the reason for a premature delivery.

5.3 Implication to Nursing

5.3.1 Nursing research

This study results revealed that there is need for further research in the area of psychological distress among mothers with hospitalized preterm babies.

5.3.2 Nursing practice

The study informed the nurses working in NICU that there is need to attend to the mothers of the hospitalized preterm babies and that mothers of preterm babies played a very important role in the prognosis of preterm babies.

5.3.3 Nursing administration

The study is an eye opener to the administration that during nurse allocation and supervision they should also have in mind the mothers of preterm babies and their risk of psychological distress.

5.4 Conclusion

The study topic was, Factors associated with psychological distress among mothers with preterm babies at The Mother and Newborn Hospital Neonatal Intensive Care Unit. The study revealed that 72% of the women with preterm babies at The Mother and Newborn Hospital Neonatal Intensive Care Unit were depressed. Bener (2013) revealed that psychological distress is a neglected public health problem. Therefore it is recommended that women with babies in the

NICU should always undergo counseling to prevent long term effects of psychological distress as earlier indicated.

5.5 Recommendations

Mothers with babies hospitalized in the NICU should always be counseled by nurses and Psychosocial Counselors to prevent the long-term effects of psychological distress as earlier indicated. Kangaroo mother care should be practiced for all NICU as this will promote mother and baby bounding, the mother will provide the needed warmth to the baby and also promote cardiovascular activity on the baby among others. This in turn will reduce the mother's stress. Kangaroo mother care will help reduce the stress from mother resulting from separation.

5.5.1 Recommendations for Further Research

1. A study should be conducted compare the preterm babies prognosis of those separated from the mother and those that are not separated
2. Follow up study should be conducted to explore other contributing factor to Psychological distress in mother with hospitalized babies
3. A similar study should be conducted with the questionnaire administered by a non health provider

5.6 Dissemination and Utilization of Findings

A report of the research was written and submitted to The School of Nursing Sciences and The University Of Zambia Medical Library.

The findings were then presented to the faculty of the School of Nursing Sciences, University Of Zambia and to a recognized local journal. Thereafter the results were presented to various stakeholders involved in the care of preterm babies. These included the NICU at MNH and ADH, MoH and its partners, provincial and district hospital, the office the First Lady and the department of social welfare. Kabwe Nursing College library and the provincial health office will receive a copy

In addition, four copies of the research report were printed and submitted to the following:

- ✓ School of nursing science
- ✓ The university of Zambia Medical library
- ✓ Ministry of Health
- ✓ The researcher

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APPENDICES

APPENDIX 1:

RESPONDENT'S INFORMATION SHEET

PSYCHOLOGICAL DISTRESS AMONG MOTHERS WITH PRETERM BABIES AT THE MOTHER AND NEW BORN (MNH) HOSPITAL NEONATAL INTENSIVE CARE UNIT (NICU), LUSAKA, ZAMBIA

You are requested to participate in a research study whose title is mentioned above. The study is conducted by Levison Chifwaila. He is Master of Science in Midwifery Student at the University of Zambia. The study aim is to explore psychological distress and the associated factors. The findings will help in improving the quality of care provided to mothers with hospitalized babies in Neonatal Intensive Care Unit (NICU). Before you decide whether or not to participate in this study, the purpose of the study, any risks or benefits and what is expected of you will be explained to you. You are free to ask questions about anything you do not understand about this study. Your participation in this study is entirely voluntary but if you choose not to participate, that will not affect your stay at the hospital or to care of your baby and no privileges will be taken away from you. If you decide to participate, you are free to withdraw without any explanation and if you agree to participate, you will be asked to sign the consent in the presence of a witness. Agreement to participate will not result in any immediate benefits.

Purpose of the study

The aim of the study is to determine the prevalence of Psychological distress (PD) and to explore whether worry about baby's survival, separation from the baby, guilty feeling of not bringing the baby term and social support are association with psychological distress among mothers with preterm babies at The Women and Newborn Hospital (WNH) Neonatal Intensive Care Unit (NICU), Lusaka, Zambia

Procedure

The study will involve signing of the consent form and completing the questionnaire.

Once it is completed, the questionnaire should be returned to the researcher.

Risks and discomforts

There is no risk involved in this research though part of your time will be spent answering some questions.

Benefits

There will be no direct benefit to you by participating in this study, but the information obtained will help improve the care provided to mothers of hospitalized premature babies

Cost, reimbursement and compensation

Your participation in this study is voluntary. You will receive no money for your

participation. However, if you feel like withdrawing at any time, you are free to do

so and this will not affect your stay at hospital or care of your baby.

Confidentiality/anonymity

The data we collect do not contain any personal information about you. The discussion and information collected in this study will be kept strictly confidential. No one will link the data you provided to identifying information you supplied

(e.g., address, email).

For further information

We will be glad to answer your questions about this study at any time. You may

contact us by phone or email

Principal Investigator cell no +260977571685

email levichifwaila@yahoo.com

Supervisor

Email: loniamagolo@gmail.com

Co- Supervisors

Email: sebeanmayimbo@gmail.com

APPENDIX II

INFORMED CONSENT FORM

The study has been explained to me and I understand the purpose, the benefits, the risks, comfort and the confidentiality involved in the study. I further understand that: If I agree to take part in the study, I can withdraw at anytime without having to give an explanation and that taking part in this study is completely voluntary.

I ……(Names)

Have agreed to take part in the study.

Signed

…….Date…….

(Participant's signature or thumb print)

Signed

…….Date…….

(Researcher)

Persons to consult clarification

Levison Chifwaila, The University of Zambia School of Medicine, Department of Nursing Science, Post Graduate Studies P. O. Box 50110, Lusaka. Phone number +260 977571685

The Dean, The University of Zambia School of Nursing Science, P. O. Box 50110, Lusaka.

APPENDIX III

UNIVERSITY OF ZAMBIA

SCHOOL OF NURSING

STRUCTURED INTERVIEW SCHEDULE

TOPIC: PSYCHOLOGICAL DISTRESS AMONG MOTHERS WITH PRETERM BABIES AT THE MOTHER AND NEW BORN (MNH) HOSPITAL NEONATAL INTENSIVE CARE UNIT (NICU), LUSAKA, ZAMBIA

PLACE OF INTERVIEW: …….

DATE OF INTERVIEW: ……...

NAME OF INTERVIEWER …….

SERIAL NUMBER OF INTERVIEW SCRIPT: ……

INSTRUCTIONS FOR THE INTERVIEWER:

Introduce yourself to the respondent and explain the reason for the interview.

1. Introduce yourself to the respondent
2. Explain the purpose of the interview
3. Obtain written consent from the respondent and do not force them to be interviewed
4. Do not write the name of the participant on the interview schedule.
5. Circle the most appropriate response given by the participant to the question for closed ended questions.
6. Fill in the answer on the spaces provided for open ended questions.
7. All the information provided by the respondent should be kept in strict confidence.
8. Provide time for the respondent to ask questions at the end of the interview.
9. Thank the respondent at the end of each interview.

SECCTION A: DEMOGRAPHIC DATA OF THE RESPONDENTS

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1. How old were you on your last birthday?

   ……..

2. What is your marital status?
   a. Single
   b. Married
   c. Divorced
   d. Widowed

3. If married, what does your husband do for his living
   a. Un employed
   b. Farmer
   c. Formally employed
   d. Businessman

4. What is your Religion?
   a. Christianity
   b. Islamic
   c. Hinduism
   d. Any other, specify_____

5. What is your highest level of education?
   a. None
   b. Primary
   c. Secondary
   d. Tertially

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6. What do you do for your living?
   a. un employed
   b. Formally employed
   c. Farming
   d. business woman

7. What is your monthly income?
   a. ≤ K 510,00
   b. K 510- K1,530.00
   c. ≥ K4,500.00

8. How many children do you have?
   a. 1
   b. 2
   c. 3
   d. 4 and above

9. How old is your second last child?
   a. less than 1 year old
   b. 1 to 2 years old
   c. Above 3 years

10. Where did you deliver the last child from?
    a. Hospital
    b. Clinic
    c. On the way to health centre

d. Home

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11. Who conducted the delivery of your last child?

a. Self/relative
b. TBA
c. Nurse/midwife
d. Doctor

12. For how long have your baby been hospitalised to NICU?

a. less than 7 days
b. More than 7 days

SECTION B: PSYCHOLOGICAL DISTRESS

Please select the answer that comes closest to how you have felt in the past 7 days

13. Have been able to laugh and see the funny side of things.

a. As much as I always could
b. Not quite so much now
c. Definitely not so much now
d. Not at all

14. I have looked forward with enjoyment to things.

a. As much as I ever did
b. Rather less than I used to
c. Definitely less than I used to
d. Hardly at all

15. I have blamed myself unnecessarily when things went wrong.

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a. Yes, most of the time
b. Yes, some of the time
c. Not very often
d. No, never

16. I have been anxious or worried for no good reason.

a. No not at all
b. Hardly ever
c. Yes, sometimes
d. Yes, very often

17. I have felt scared or panicky for no very good reason.

a. Yes, quite a lot
b. Yes, sometimes
c. No, not much
d. No, not at all

18. Things have been getting on top of me.

a. Yes, most of the time I haven't been able to cope at all
b. Yes, sometimes I haven't been coping as well as usual

c. No, most of the time I have coped quite well
d. No, I have been coping as well as ever

19. I have been so unhappy that I have had difficulty sleeping.

a. Yes, most of the time
b. Yes, sometimes
c. Not very often
d. No, not at all

20. I have felt sad or miserable.

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a. Yes, most of the time
b. Yes, sometimes
c. Not very often
d. No, not at all

21. I have been so unhappy that I have been crying.

a. Yes, most of the time
b. Yes, quite often
c. Only occasionally
d. No, never

22. The thought of harming myself has occurred to me.

a. Yes, quite often
b. Sometimes
c. Hardly ever
d. Never

SECTION C: SOCIAL SUPPORT

23. hat is you cureent employment status

a. employed with a wage
b. self-employed
c. out of work and looking for a job
d. house wife
e. student
f. other specify

24. what is the employment status of you next of kin

a. employed with a wage
b. self-employed
c. out of work and looking for a job
d. house wife
e. student
f. other specify

25. Grade would you grade your family income

a. very adequate
b. adequate
c. inadequate
d. very inadequate

26. Do you consider your household to be…

a. Very poor,
b. Moderately poor
c. Poor
d. Not poor?

27. How would you rate the support you receive from your family

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a. highly supportive
b. supportive
c. not supportive

28. How many times does your family visit you in a week

e. more than 5 times
f. more than 3 times
g. about once
h. none

29. How many meals do your family have per day

i. 3 meals
j. 2 meals
k. 1 meal

30. what is your sourse of energy for cooking

e. electricity
f. charcoal
g. firewoood
h. gas /solar

27. What is your ecomonical status

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a. high class
b. middle class
c. low class

32. What is your housing unit

a. traditional
b. improved traditional
c. mixed
d. convetional flats
e. conventional house

SECTION C: QUILT FEELINGS

33. Do you feel ashamed of yourself that you could

not bring the baby to term

a. All the times
b. At times
c. Not at all

34. Do you feel you are the cause of premature birth

a. All the times
b. At times
c. Not at all

35. Do you feel that there are things you could have done better

a. All the times
b. At times
c. Not at all

36. Do you regret some things you have done

a. All the times
b. At times
c. Not at all

28. Do you feel people blame you for a premature delivery

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a. All the times
b. At times
c. Not at all

SECTION D : WORRY ABOUT SURVIVAL OF THE BABY

Do you feel any of the following at any time during hospitalization

37. Panic attacks

a. All the times
b. At times
c. Not at all

38. Do you feel feel anxious

a. All the times
b. At times
c. Not at all

39. Hot and cold flushes

e. All the times
f. At times
g. Not at all

40. Tightening of the chest

e. All the times
f. At times
g. Not at all

41. Quick breathing or restlessness

e. All the times
f. At times
g. Not at all

29. Feeling tense or excessive fear

a. All the times
b. At times
c. Not at all

42. Worry that the baby may not survive

a. All the times
b. At times

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c. Not at all

43. Obsessive thinking

a. All the times
b. At times
c. Not at all

SECTION E: SEPARATION

45. Do you feel reluctant to go when the visiting time is over?

a. Most of the times
b. Some time
c. Not at all

46. Do you feel persistent anxious to visit the baby?

a. Most of the times
b. Some time
c. Not at all

47. Do you have persistent and excessive worry when you are away from the baby?

a. Most of the times
b. Some time
c. Not at all

30. 48. Do you feel reluctant or refuse to leave the baby when visiting time is over?

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a. Most of the times
b. Some time

c. Not at all

49. Do you fear that something bad or possible harm can happen on the baby when you are away?

a. Most of the times
b. Some time
c. Not at all

50. Do you have repeated nightmare involving the theme of separation

a. Most of the times
b. Some time
c. Not at all

51. Do you feel your role as a mother has been taken away from you?

a. Most of the times
b. Some time
c. Not at all

52. Do you feel clinging to your baby when visiting time is over?

a. Most of the times
b. Some time
c. Not at all

53. Does being away from your baby distress you

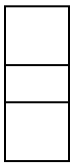
a. Most of the times
b. Some time
c. Not at all

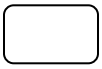
54. Have you experienced any of the following physical

symptoms: headaches, stomachaches, nausea or vomiting

when separated from your baby?

a. Most of the times
b. Some time
c. Not at all





Thank you very much for taking your time

to answer these questions !!!!!