PREVALENCE AND COPING MECHANISMS OF POSTPARTUM DEPRESSION AMONG MOTHERS OF INFANTS IN IBADAN NORTH-EAST LOCAL GOVERNMENT AREA, IBADAN, OYO STATE, NIGERIA

BY

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CERTIFICATION

I certify that this study was carried out by Aminat Olamide Adelodun under my supervision at the department of Health Promotion and Education, Faculty of Public Health, College of Medicine, University of Ibadan, Ibadan, Nigeria.

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DEDICATION

This study is dedicated to the almighty Allah, the beneficent, the merciful and to my precious husband for his stanch support at all time.

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ABSTRACT

Postpartum depression is a mood disorder in women associated with child birth. It is an important public health issue affecting both the mother's health and the child's development. Its prevalence is between 10 and 20% in sub-saharan Africa, yet it is one of the least addressed types of depression today. Cases of mothers murdering their babies have been documented and reported widely, however, many mothers that experience this have little or no knowledge about it. Therefore, this study was designed to assess the prevalence and coping mechanisms of PPD among mothers of infants in Ibadan North-East Local Government Area, Oyo State, Nigeria.

The study was a descriptive community-based cross-sectional survey which employed a multi-stage sampling technique. Six wards were randomly selected from the twelve wards in Ibadan North-East Local Government Area, and two communities were randomly selected from each of the six wards to get a total sampling frame of twelve communities. Pre-tested semi-structured interviewer-administered questionnaire was used to collect data from a sample of three hundred and twenty respondents to document their socio-demographic characteristics, knowledge and perceived factors associated with PPD. Edinburgh Post-natal Depression Scale (EPDS) and a 28-item Brief Coping Orientation with Problem Experienced (Brief COPE) Scale were adapted to screen for depression and coping mechanisms respectively. Knowledge score was measured on 10 point scale. Knowledge score of ≤3 was rated poor. Cut off score for depression on EPDS was ≥ 10. Data was analysed using SPSS version 20, using descriptive statistics and Chi-square test at 0.05 level of significance.

The age of respondents was 30.9±6.5years, 91.6% were married, 88.4% were Yoruba. Majority (52.8) had Secondary education as the highest educational level, 47.2% were traders, 83.3% were in a monogamous marriage, 89.1% had ≤4 children, and most respondents (86.3%) had irregular monthly income. About One-third of the respondents (37.5%) answered the questions on knowledge of PPD, of which majority (80.8) had good knowledge. The prevalence of PPD was 30.6%, while Religion was the most (90.8%) frequently used coping style. Relationship difficulty with family of birth (OR: 0.28, 95% CI 0.12–0.67, P <0.001), Anxiety during pregnancy (OR: 0.40, 95% CI 0.20-0.82, P <0.001), and unplanned pregnancy (OR: 4.53, 95% CI 2.22–9.22, P <0.001) were factors found to bestatistically associated with PPD.

There is low awareness of postpartum depression among the entire group but good knowledge score among those that were aware of it in the study area. Hence, there is need for creating awareness and sensitization of mothers of infants on postpartum depression at the community level.

Keywords: Prevalence, coping mechanism, Post-partum depression, mothers of infants, knowledge

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CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Postpartum depression (PPD) is an important public health issue, affecting both the mother's health and the child's development. The manifestation of this health problem occurs, in the great majority of cases, during the first four weeks after birth, usually reaching its greatest intensity during the first six months (Gomes, Ricardo, Ricardo, Bernado, Paulo and Augusto 2006). The most common symptoms are persistent dismay, feelings of guilt, sleep disturbances, suicidal ideas, fear of harming the child, lack of appetite and decreased libido, inability to think clearly or make decisions and presence of obsessive or overvalued ideas (Gomes et al., 2006).

According to Anokye, Acheampong, Ainooson, Obeng and Akwasi (2018) Postpartum depression (PPD) is a mood disorder that affects approximately 10–15% of adult mothers yearly with depressive symptoms lasting more than 6 months among 25–50% of those affected. Postpartum depression often occurs within a few months to a year after birth. However, some studies have reported the occurrence of postpartum depression 4 years after birth. Causes of PPD may be physiological, situational, or multifactorial (Anokye et al., 2018).

PPD is the most prevalent mental disorder in the perinatal period in high-income countries (HICs), affecting around 10 to 15% of women. The prevalence of PPD appears to be at least as high in low and middle-income countries (LMICs), affecting an estimated 19.8%, although estimates range from zero to 73.7% (Azale, Fekadu and Hanlon 2016). Children born to women with PPD in LMICs are at higher risk of adverse impacts on health, growth and development but have lower access to evidence-based mental health care (Azale, et al., 2016).

Over the past four decades, many studies have emphasized the importance of mood disorders after childbirth. PPD is more frequent in women than thought otherwise. Unfortunately, little attention has been paid to this condition in terms of identification, diagnosis, and treatment. Mothers at risk are not often identified during pregnancy or at the time of delivery. This occurs

especially in developing countries, where psychological issues are mostly ignored. It should be noted that up to 80% of cases do not seek medical attention and thus, are not diagnosed by the respective specialist (Nakku, Nakasi, and Mirembe, 2006).

1.2 Statement of problem

PPD is one of the most common complications of childbirth in women during the postpartum period (Djoda-Adama, Foumane, Olen, Dohbit, Meka and Mboudou, 2015), with an estimated prevalence of 13-19%, causes significant impairment of mental health among women worldwide and has long term consequences. However, more than half of all cases are not detected by healthcare provider (Johnson, Edwin and Joachim, 2015). In the United States, PPD occurs in about 8 per 100,000 births. It has also been seen as a temporary depression that afflicts about 15 percent of women following childbirth. It is more intense and long lasting than the "baby blues," which affect as many as half of new mothers (Djoda-Adama et al., 2015).

PPD is one of the most common complications in women in the postpartum period (Motzfeldt, Andreasen, Pedersen, and Pedersen, 2013). Its prevalence is estimated between 10% and 20%, with an average prevalence of 13% (O'hara, and Swain 1996). This figure depends on the geographic location and the socio-economic conditions. In sub-Saharan Africa, studies have reported a prevalence of 6.6% in Uganda, 14.6% in Nigeria, 34.7% in South Africa, and up to 50.8% in the Democratic Republic of Congo (Nakku et al., 2006; Adewuya, Fatoye, Ola, Ijaodola and Ibigbami, 2005; Cooper, Tomlinson, Swartz, Woolgar, Murray, and Molteno, 1999; Imbula Essam, Okitundu Luwa and Ma-Miezi, 2012).

The prevalence of PPD is between 10 and 20% according to the majority of studies (Abou-Saleh and Ghubash, 1997; Alvarado, Rojas, Monardes, Neves, Olea, Perucca and Páez, 2000; Da-Silva, Moraes-Santos, Carvalho, Martins, and Teixeira 1998;Sierra Manzano, Carro García, Ladron and Moreno 2002). Variations in the rates of prevalence are probably due to the use of diverse diagnostic methods and criteria, as well as economic and cultural differences among the groups studied. In Brazil, in a study conducted in the District of Anaia, in São Gonçalo, in the state of Rio de Janeiro, Da-Silva, et.al,1998) observed a prevalence of 12% of depression during the third month of the postpartum period among 33 mothers. Two other Brazilian studies found similar

prevalence of 13.3% with N=120 (Gomes, Tavares, Azevedo, Lessa, Luis, Sousa, and Duarte, 2006).

According to (Haque, Namavar, and Ann Breene 2015), PPD affects women around the world and it is estimated that its prevalence runs at about 10–15% (Fuggle, Glover, Khan & Haydon, 2002). Some studies show that PPD may affect up to 30% of all women after delivery (Evins, Theofrastous & Galvin, 2000; WHO, 2003), and has a significant impact on the mother and long-term consequences on the cognitive and emotional development of children (Tammentie, Tarka, Astedt-Kurki and Paavilainen, 2002). It is generally also agreed that while this illness can turn into major depression and carries substantial risk of morbidity and death, it is an underdiagnosed and underrated illness. Mathers & Loncar (2006) project that by the year 2030, depression was one of the top three leading causes of death in the world, yet PPD is one of the least addressed types of depression today.

1.3 Justification for the study

Cases of mothers murdering their new born babies have been documented and reported widely. However, many mothers that experience this have little or no knowledge about it (Azale et al., 2018). Because of the keen interest in the emotional wellbeing and mental health of postpartum women and accompanying psychiatric diagnostic developments, there is significant amount of research on this topic but very little is written on the coping mechanisms that are used by women from the African countries (Klanin & Arthur, 2009; O'Mahoney & Donnelly, 2010). It is therefore essential to understand the nature and extent of this problem as a lack of such knowledge has serious implications for diagnosis and treatment (Chinawa et al., 2016).

There is a need to detect and manage mothers with postnatal depression because of the associated risk to the babies, lack of proper care of the babies, physical injuries to the babies, and sometimes death. There is also a huge burden on the mother and other caregivers (Johnson et al., 2015). It is also important to identify the associated risk factors for the development of PPD to prevent this illness, which is known for its high morbidity and mortality (Stewart et al., 2003). Given the challenges associated with safety and acceptability of psychotropic medicines in the perinatal period, there is a need for contextually appropriate psychosocial interventions (Milgrom, Hirshler, Reece, Holt and Gemmill 2019). Adaptation and successful implementation of a psychosocial intervention requires an understanding of women's existing coping

mechanisms within that context (Azale et al., 2018). However, this study hopes to add to the body of research on the existing studies in this part of the country.

1.4 Research questions

1. What is the level of mothers' knowledge about Post-partum depression in Ibadan North East Local Government Area (IbNELGA)?
2. What are the perceived factors associated with Post-partum depression among mothers of infants in IbNELGA?
3. What is the prevalence of Post-partum depression symptoms among mothers of infants in IbNELGA?
4. What are the coping mechanisms and the frequencies of each mechanism used by mother of infants who have postpartum depression symptoms in IbNELGA?

1.5 Objectives of the study

1.5.1 Broad Objective

The broad objective of this study was to investigate the Prevalence and Coping Mechanisms used by mothers of infants who have postpartum depression in Ibadan North-East Local Government Area, Oyo state.

1.5.2 Specific objectives

To achieve this general objective, the following specific objectives were set to;

1. Assess the mothers' level of knowledge about Post-partum depression symptoms in IbNELGA.
2. Identify the perceived factors associated with Post-partum depression symptoms among MOI in IbNELGA.
3. Determine the prevalence of Post-partum depression symptoms among mothers of infants in IbNELGA
4. Identify and estimate the frequencies of the coping mechanism used by mothers with Post-partum depression symptoms in IbNELGA.

1.6 Research hypotheses

The following research hypotheses were tested.

1. There is no significant association between maternal socio-demographics characteristics and the occurrence of PPD
2. There is no significant association between mothers' knowledge of PPD and prevalence of PPD symptoms

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The review of related literature is a key step in research process. The major purpose of reviewing the literature is to determine what has clearly been done that relates to one's problem. Another important function of review is that it points out research strategies and specific procedures and measuring instruments that have been found to be productive in investigating one's problem. Familiarity with previous research also facilitates interpretation of the results of the study. Finally, these reviews give information which can either support or challenge the conclusion of the investigator's research and therefore help in future research.

2.2 Depression

Depression is a mood disorder characterised by sadness (Harrison internal medicine, 2001) Depression is a mental state of excessive sadness characterised by persistently low mood, loss of pleasure and interest.

World Health Organisation defined depression as a common mental disorder that presents with depressed mood, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or appetite, low energy, and poor concentration (WHO, 2003). Depression occurs in persons of all genders, ages, and backgrounds. Facts are that Depression is common, affecting about 121 million people worldwide. About 12% of men and up to 25% of women suffer from depression during their lifetimes. The signs and symptoms of depression include loss of interest in activities that were once interesting or enjoyable, including sex; loss of appetite (anorexia) with weight loss or overeating with weight gain; loss of emotional expression (flat affect); a persistently sad, anxious or empty mood; feelings of hopelessness, pessimism, guilt, worthlessness, or helplessness, social withdrawal, unusual fatigue, low energy level, a feeling of being slowed down; sleep disturbance with insomnia, early-morning awakening, or oversleeping, trouble concentrating, remembering, or making decisions; unusual restlessness or irritability, persistent physical problems such as headaches, digestive disorders, or chronic pain that does not respond

to treatment, thoughts of death or suicide or suicide attempts. Alcohol or drug abuse may be signs of depression.

2.3 Postpartum depression

PPD also called postnatal depression is a type of mood disorder associated with childbirth, which can affect both sexes. Symptoms may include extreme sadness, low energy, anxiety, crying episodes, irritability, and changes in sleeping or eating patterns. Onset is typically between one week and one month following childbirth. PPD can also negatively affect the new-born child (Pearlstein et al., 2009).

It is a common medical condition which the mother goes through after child birth (Al Ghamdi et al., 2019). The incidence of PPD varies greatly among patients in different regions, of different races and with different economic backgrounds, with the prevalence ranging from approximately 6.5-19% (Gaynes, Gavin and Meltzer-Brody 2005; Gaillard, Strat, Mandelbroot, Keita and Dubertret, 2015; Chen, Wang, Ding, and Hongbo Qi, 2019). The morbidity is higher when women have cesarean section deliveries, are underweight, are obese, or have pelvic floor symptoms, and experience other special situations (Xie, Lei, Wang, Walker and Wen, 2011; Chen et al., 2019). PPD has a negative influence on women's health, family harmony, and infant development and has become a public health problem worldwide. PPD often occurs within a few months to a year after birth. However, some studies have reported the occurrence of postpartum depression 4 years after birth (Anokye et al., 2018; Mauthner, 1998). Causes of PPD may be physiological, situational, or multifactorial (Fishel, 2004; Anokye et al., 2018).

Postpartum women are especially vulnerable to mood disturbance, including maternity blues and postpartum depression (PPD) (O´Hara and Swain 1996; Brockington, 2004; Gayneset al. 2005). The transition to motherhood is stressful (Nelson 2003; Leung et al. 2005) as it requires several important changes in family dynamics, finances, and working life, along with physical and psychological adjustments. The development of the maternal role is considered a key component of motherhood (Emmanuel et al., 2011). Some women find that the transition can exceed their coping resources due to a loss of confidence in their ability to provide for the infant's physical, behavioural, emotional, and social development (Rubin, 1984). In these circumstances, some mothers can feel insecure and show symptoms of stress, anxiety, and distress (Meleis, 2007).

According to Stewart, PPD is a significant public health problem which affects approximately 13% of women within a year of childbirth. Although rates of depression do not appear to be higher in women in the period after childbirth compared to age matched control women (10-15%), the rates of first onset and severe depression are elevated by at least three-fold. Depression at this critical period of life carries special meanings and risks to the woman and her family. It is possible to identify women with increased risk factors for PPD, but the unacceptably low positive predictive values of all currently available antenatal screening tools make it difficult to recommend them for routine care. Several postpartum screening tools exist but the optimal time for screening and their applicability to multicultural populations are not yet established (Stewart et al., 2003; WHO, 2003).

2.4 Signs and symptoms

According to Ugarriza (2002), fatigue, loss of energy, poor concentration, and feelings of worthlessness and guilt were complaints of the mothers, and these are in accordance to the symptoms of major depression as outlined in the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition (DSM-IV*)*. The most common symptoms are persistent dismay, feelings of guilt, sleep disturbances, suicidal ideas, fear of harming the child, lack of appetite and decreased libido, inability to think clearly or make decisions and presence of obsessive or overvalued ideas (Abou-Saleh and Ghubash, 1997; Moraes et al., 2007), the disorder is also characterized by tearfulness, mood swings, low feeling from loss of hope, feelings of inadequacy, inability to cope with the care of the baby, increasing guilt about the birth, and guilt about performance as a mother (Berggren- Clive, 1998; Nalepka & Coblentz, l995). Lucero, Beckstrand, Calliser and Birkhead (2012) and Juntaruksta et al., (2017) also reported that women with PPD often present constant sadness, fatigue, irritability, sleep disturbances, poor appetite, separateness, offensive thoughts and feeling of guilt during their postpartum period.

Symptoms of PPD can occur any time in the first year postpartum. Typically, a diagnosis of PPD is considered after signs and symptoms persist for at least two weeks. These symptoms include two major categories (Emotional and Cognitive), but are not limited to: persistent sadness, anxiousness or "empty" mood, severe mood swings, frustration, irritability, restlessness, anger, feelings of hopelessness or helplessness, guilt, shame, worthlessness, low self-esteem, numbness,

emptiness, exhaustion, inability to be comforted, trouble bonding with the baby, feeling inadequate in taking care of the baby, behavioural, lack of interest or pleasure in usual activities, low or no energy, low libido, changes in appetite, fatigue, decreased energy and motivation, poor self-care, social withdrawal, insomnia or excessive sleep, all these are categorised as emotional (Understanding Post-Partum Depression 2015). Diminished ability to make decisions and think clearly, lack of concentration and poor memory, fear of care for the baby or fear of the baby, worry about harming self, baby, or partner, these are categorised as cognitive (The Boston Women's Health Book Collective 2005).

2.5 Causes and risk factors of PPD

The cause of PPD is not well understood but hormonal changes, genetics, and major life events have been hypothesized as potential causes. Evidence suggests that hormonal changes may play a role. Hormones which have been studied include oestrogen, progesterone, thyroid hormone, testosterone, corticotrophin releasing hormone, and cortisol (Marques et al., 2011).Goodman in 2004 stated that "Fathers, who are not undergoing profound hormonal changes, can also have post-partum depression. The cause may be distinct in males. Profound lifestyle changes that are brought about by caring for the infant are also frequently hypothesized to cause PPD. However, little evidence supports this hypothesis. Mothers who have had several previous children without suffering PPD can nonetheless suffer it with their latest child. Despite the biological and psychosocial changes that may accompany pregnancy and the postpartum period, most women are not diagnosed with PPD (Johnson et al., 2015).

While the causes of PPD are not understood, several factors have been suggested to increase the risk. According to Leahy-Warren 2007 and Mc-Carthy, 2007, such factors include; prenatal depression or anxiety, personal or family history of depression, moderate to severe premenstrual symptoms, stressful life events experienced during pregnancy, maternity blues, birth-related psychological trauma, birth-related physical trauma, previous stillbirth or miscarriage, formula-feeding rather than breast-feeding, cigarette smoking, low self-esteem, childcare or life stress, low social support, poor marital relationship or single marital status, low socioeconomic status, infant temperament problems/colic, unplanned/unwanted pregnancy, elevated prolactin levels, oxytocin depletion etc.

PPD has a multi-factorial etiology. According to Fiorelli, Aceti, Marini and Biondi (2015), several studies have considered the following as risk factors of PPD: clinical factors such as; premature delivery, intrauterine growth restriction, caesarean deliveries, and admission of infant to the neonatal care units, biological factors as; sleep disturbance, deregulation of neurotransmitters, and serotonin, hormonal factors as; thyroid, cortisol, and oxytocin, and psychological variables such as; stressful life events, marital discord, low social support, attachment uncertainty, and personality descriptions. There are many other types of factors that cause depression in postpartum mothers (Turkcapar, Kadioglu, Aslan and Mollamahmutoglu 2015).

There is prior non-puerperal depression, prior premenstrual dysphoria, stressful life events during pregnancy or immediate postpartum, poor social support, marital problems, abuse (Garabedian, Lain, Williams and Crofford, 2011). Little support from husband, personality conflict, low salary, immigration status, and young aged mothers (Petrosvan, Armenian and Arzoumanian 2011).Obstetrical stressors and problematic infant temper as predictors of PPD (O'Hara and McCabe, 2013). The evidence of PPD risk factors is diverse, such as undesired pregnancy (Abbasi, Chuang, Dagher, Zhu and Kjerulff, 2013) and sex of the infant, history of premenstrual syndrome (Xie, Liao, Guo, Walker and Wen 2011). Risk factors for postpartum depression in the study by Al-Ghamdi et al., 2019 include: low level of education, lack of partner or relative support, infant health problems, history of abortion, gender of infant, medical or surgical history, life stressor event, and changes in the living conditions.

According to Anokye et al., (2018), the major predisposing factors for developing PPD are stressful life events, childcare stress, and prenatal anxiety, as well as the history of the previous episode of PPD. While Osok, Kigamwa, and Kumar (2018) identified four critical risk factors for depression such as having experienced an adverse event or extremely stressful life context, living with HIV/AIDS, absence of support from the partner or the family and being a younger adolescent. Moraes IGS et al., (2006) concluded that the precarious socio-economic conditions of the puerperal woman and the latter's lack of acceptance of her pregnancy are the factors that most influenced the emergence of post- partum depression in their study. Of these risk factors,

formula-feeding, a history of depression, and cigarette smoking have been shown to have additive effects (Paschetta, et al. 2014).

2.6 Prevalence of PPD

Cheng et al., (2019) found in their study conducted in china, the prevalence of PPD to be 26.7% in patients with preeclampsia, which was twice the prevalence of PPD among normal women (12.2%). The prevalence of antepartum depression ranges from 7% to 15% in high-income countries (Evans, Francomb, Oke and Golding, 2001; Grote, Bridge, Gavin, Melville and Katon, 2010) and 19–25% in low-income and middle-income countries (Rahman, Iqbal and Harrington 2003). Notably, the prevalence of post-partum depression among women residing in high-income countries is reported to be approximately 10% (Gavin, Gaynes, Lohr, Meltzer-Broody, Gartlehner and Swinson, 2012) and 20% for women in low-income and middle-income countries (Sentrunk, Hanlon and Medhin, 2012).

The high prevalence of perinatal depression is influenced by risk factors including increased somatic symptoms, exposure to intimate partner violence (Gomez-Beloz, Williams, Sanchez and Lam 2009), little social support (Sawyer, Ayers and Smith 2010), unintended pregnancy (Biratu and Haile, 2015), and high rates of relapse of depression during the perinatal period (Cohen, Altshuler and Harlow 2006). Antepartum depression has been linked to negative health related behaviours and adverse outcomes (Horrigan, Schroeder and Schaffer, 2000), including poor nutrition (Llewellyn, Stowe and Nemeroff, 1997), increased substance use, inadequate antenatal care, pre-eclampsia (Barrio and Burt, 2000), low birth weight, preterm delivery (Hoffman Hatch 2000), post-partum depression, and suicide (Kurki, Hiilesmaa, Raitasalo and Ylikorkala 2000; Najman, Anderson, Callaghan and Williams, 2000).

According to a study conducted in Ile-ife the south western part of Nigeria by Adewuya et al., (2005) the prevalence of combined major and minor depressive disorders in postpartum women was 16.4%, which is statistically significant from the prevalence of depressive disorders in non-postpartum matched controls (6.3%), while in another study conducted in Kenya found a 13.0% prevalence of post-partum depressive symptoms among women attending maternal and child health clinic based in an urban settlement of Nairobi. Obindo et al. in a cross-sectional study

reported a prevalence rate of 44.39% of PPD among 392 women attending the postnatal clinic and the Children's Welfare clinic in Jos, the north eastern part of Nigeria. Owoeye et al. in a prospective cohort study from 5 days postpartum, reported a 23.0% prevalence rate of PPD in a Maternity Center (a Primary Health Care Centre) in Lagos, South west Nigeria and in another study conducted in the Eastern part of Nigeria, a prevalence of 22.9% was obtained by Chinawa et al., (2016).

Postpartum non-psychotic depression is the most common complication of childbearing, affecting 10-15 % of women. Postnatal depression is indeed a public health problem, particularly as the incidence is much higher than the quoted rate of 10%—15% (Palo Almond, 2009). Approximately 13% of women experience this crippling mood disorder sometime during the first year after delivery (O' Hara and Swain, 1996). Although profound hormonal changes after childbirth are often claimed to cause PPD, there is little evidence that variations in pregnancy hormone level is correlated with variations in PPD level. Though all mothers experience hormonal changes, yet only 10% to 15% suffer postpartum depression.

Numerous studies support the correlation between postpartum depression and lack of support or other child care stressors (Beck, 2001; Hagen, 1999). According to Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition Text revision (DSM-IV-TR) Postpartum depression is defined as "The presence of either depressed mood or decreased interest or pleasure occurring persistently for two weeks and resulting in a decline in functional status during the postnatal period" (Garg, Marton and Heneghan, 2005). In 2006, Segre et al., conducted a study "on the extent to which race/ ethnicity is a risk factor" for PPD. Studying 26,877 postpartum women they found that 15.8% were depressed. Likewise, a study conducted by Howell et al in 2006 confirms Segre's findings that women who are non-white and in lower socioeconomic categories have more symptoms of PPD. A study conducted in Maharashtra, India revealed that the prevalence of postpartum depression was 14.1% and the incidence of post partum depression was 9%. Poverty, unwanted pregnancy, birth of a daughter when a son was desired, problems with the spouse and in-laws, excessive alcohol consumption in spouse, pregnancy and delivery complications and lack of physical help increased the risk of developing post-partum depression (Putado and Tharyan, 2005).

Findings from meta- analysis of over 14,000 subjects and subsequent studies of nearly 10,000 additional subjects found that the following factors such as depression during pregnancy, anxiety during pregnancy, experiencing stressful life events during pregnancy or early puerperium, low levels of social support, and previous history of depression were the strongest predictors of postpartum depression Robertson (Grace, 2004; Beck and Tatano, 2001) conducted a meta-analysis 84 studies published in the decade of the 1990s to determine the magnitude of the relationships between postpartum depression and various risk factors of predictors of postpartum depression. They reported thirteen significant predictors of postpartum depression.

Ten of the 13 risk factors had moderate effect sizes while three predictors had small effect sizes. These factors known to correlate with post-partum depression were as follows: prenatal depression, self-esteem, childcare stress, prenatal anxiety, life stress, social support, marital relationship, history of previous depression, infant temperament, maternity blues, marital status, socioeconomic status and unplanned/unwanted pregnancy. "Correlation" in this case means that high levels of prenatal depression are associated with high levels of postnatal depression. But this does not mean that the prenatal depression causes the postnatal depression - they might both be caused by some other factor. In contrast some factors such as lack of social support almost certainly cause postpartum depression (Chandran and Tharyan, 2002).

PPD in a cohort of women from a rural area of Tamil Nadu, India incidence and risk factors for developing post-partum depression determined. Menaka, (2007) assessed 359 women living in rural South India in their last trimester of pregnancy and 6-12 weeks after delivery for depression and risk factors reported 11% incidence of post-partum depression. Low income, birth of a daughter when a son was desired, relationship difficulties with mother-in-law and parents, adverse life events during pregnancy and lack of physical help were risk factors for the onset of post-partum depression. The study concluded that depression occurred as frequently during late pregnancy and after delivery as in developed countries, but there were cultural differences in risk factors. Correlative survey to find the relationship between postpartum depressive symptoms and family support among two hundred postnatal mothers in Rural Maternity and Child Welfare Centres and hospitals in Udupi district, Karnataka, India reported 22% prevalence of postpartum

depression and a significant correlation between postpartum depression and family support (Menaka, 2007).

2.7 Coping mechanisms

The concept of coping was first adopted by psychologists in the 1960s and 1970s and was applied to refer to the struggle of overcoming and managing the stresses of living and adapting (Lazarus and Lazarus, 2006). Different theoretical perspectives have defined coping as personality traits where the way a person copes is determined by the kind of person they are (Bjorklof, Engedal, Selbaek and Helvik, 2013; Moos, 1974) , and as a process where coping is seen as a situation-specific and flexible state (Lazarus et al., 2006). Situational factors may be the variability or controllability of a situation, and personality factors may include the aspects of self-confidence, self-efficacy (Bjorklof et al., 2013; Bandura, 1977) and lack of control (Bjorklof et al., 2013; Rotter 1966), two central concepts of the theories of personality called control orientation that constitutes parts of a person's total available coping resources (Bjorklof et al., 2013; Thompson and Schlehofer, 1984). LOC relates to the generalized expectations regarding who or what is responsible for the outcomes. If the person attributes the outcome to luck or powerful others, the belief is labeled external control, and if the relation is attributed to personal effort, the belief is labelled internal control (Bjorklof et al., 2013; Rotter et al., 1966; Craig, Franklin and Andrew 1984). Self-efficacy refers to the perception that one has the abilities to enact these responses (Bjorklof et al., 2013; Bandura 1977), and sense of control (Lanchman and Weaver 1998) is understood as the perception of control in a certain situation (Thompson et al., 1984).

According to a transactional perspective on coping, the person and the environment are understood to be in an on-going reciprocal relationship, where the stressors in life are evaluated in an appraisal process according to the perceived personal resources (i.e. control orientation, self-efficacy) and choices available to the coping person to manage the challenges (Bjorklof et al., 2013; Folkman and Lazarus, 1980). Coping, as described by Folkman and Lazarus (Folkman et al., 1980), involves different strategies to alter the stressful situation (i.e. problem-focused coping), as well as efforts to regulate the emotional distress associated with the situation (i.e. emotion-focused coping). The strategies chosen depend both upon situational and individual

factors. Coping is defined as a constantly changing cognitive and behavioural effort that aims at dealing with the demands of specific situations that are appraised as stressful (Lazarus and Folkman 1984). Subjects respond to stress through complex cognitive, behavioural, emotional, and biological processes (Compas et al. 2001; Compas 2006; McEwen, 1998). The process of selecting these strategies implies an evaluation of personal competencies to confront problems. Variability in the style and specific coping behaviour that a mother has toward her baby contributes to her adjustment to this new role. Coping strategies are related to self-regulation (Lazarus and Folkman 1984; Matheny et al. 1986), which is linked to stress (Blood 2012). Self-regulation failure can contribute to the onset and continuance of depressive episodes (Strauman 1989; Strauman1992; Scott and O'Hara 1993).

Coping strategies are considered relevant for infant developmental outcomes (Levy-Shiff et al. 1998; Levy-Shiff et al. 2002) and postpartum depression (Terry et al. 1996; Honey et al. 2003; De-Tychey et al., 2005). Mikulincer and Florian found that avoidant women showed weak attachments to their foetuses and showed negative mental health in the first and third trimesters of their pregnancies (Mikulincer and Florian, 1999). Studies have demonstrated that pregnant women who use specific coping strategies run a major risk of developing post-partum or depressive symptoms some weeks later (Honey et al., 2003). Major use of emotional coping during pregnancy has been found to be a significant predictor of higher levels of depression during pregnancy (Da Costa et al. 2000), whereas distancing strategies have been linked to depressive symptom scores at 10 days postpartum (Faisal-Cury et al., 2004).

Women with depressive symptoms 25–35 weeks into pregnancy have been shown to use non-adaptive strategies (DeTychey et al., 2004). Postpartum depressive symptoms were positively associated with the avoidance coping scale (Van Bussel et al., 2009). Distancing, denial, blame, and substance use were the coping strategies most often associated with depression during pregnancy (De-Tychey et al., 2005). An avoidant coping style, as observed during the third trimester, has been linked to more depressive symptoms and a greater likelihood of depression at 6 weeks postpartum (Honey et al., 2003). According to Razurel, Bruchon-Schweitzer, Dunpaloup, Irion and Epiney (2011), in the early postpartum period, women mainly search forsocial support as a coping strategy which can be easily understood as they are in a hospital

context and need to be reassured and comforted, while at home, the main strategy is the mobilisation of internal resources and for events related to their own health, e.g urinary incontinence, mothers use avoidance or minimisation strategies. Also, at six weeks postpartum, several women spoke of negative emotions and thoughts that they named the 'baby blues'.

People use different strategies for coping with negative affective state and associated life problems (Kasi, Kassi and Khawar, 2007; Kasi, Naqvi, Afghan and Khan, 2012). Strategies are said to be developed to identify means to reduce stress. Such coping mechanisms are important both in periods of acute stress/emergencies as well as in patients suffering from chronic illnesses such as depression, in a study on the coping mechanisms and depression in elderly medically ill men, a high proportion of the respondents sought comfort in religious beliefs and practices. This in turn was inversely related to their severity of depression (Koenig, Cohen and Blazer, 1992; Kasi et al., 2012). In contrast, the use of some of these coping styles, such as "substance use," may be termed as "maladaptive" and may result in poorer health outcomes for the patient (Vosvick, Koopman, Gore-Felton and Piegel, 2003). In chronic diseases, such as depression and anxiety, knowledge of these coping styles by the treating clinician/ psychiatrist can have important implications (Kasi et al., 2012).

2.8 Conceptual framework

The conceptual framework that was used for this study is the Social Learning Theory. The SLT of Bandura was developed in 1963. It describes a dynamic, on-going process in which personal factors, environmental factors, and human behaviour exert influence upon each other. It also emphasizes the importance of observing and modelling the behaviours, attitudes and emotional reactions of others.

The goal of the SLT is to show that an individual can learn in multiple ways. People make choices based on self-reflection, but mainly the environment in which a person finds themselves influences the way they behave and learn.

The basic components of the theory are explained below

Reciprocal Determinism: The dynamic interaction of the person, behaviour and the environment in which the behaviour is performed

Environment: Factors that are physically external to the person, and include opportunities for social support

Observational Learning: Behaviour acquisition that occurs by watching the actions and outcome of others' behaviour within the environment

Expectations: Anticipatory outcomes of a behaviour

Self-Efficacy: The person's confidence in performing a particular behaviour

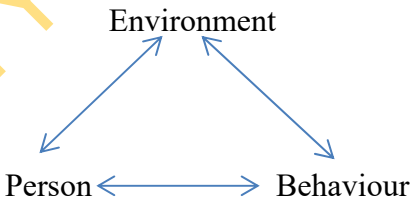
Environment context – social, economic, geographical

The Individual – personal and cognitive characteristics

The Behaviour – Nature and dimensions

Social Learning Theory

- Environmental context
    - Social, economic, geographical, political
- The Individual
    - Personal and cognitive characteristics
- The behaviour



- Self-efficacy
- Value expectancies
- Observational learning

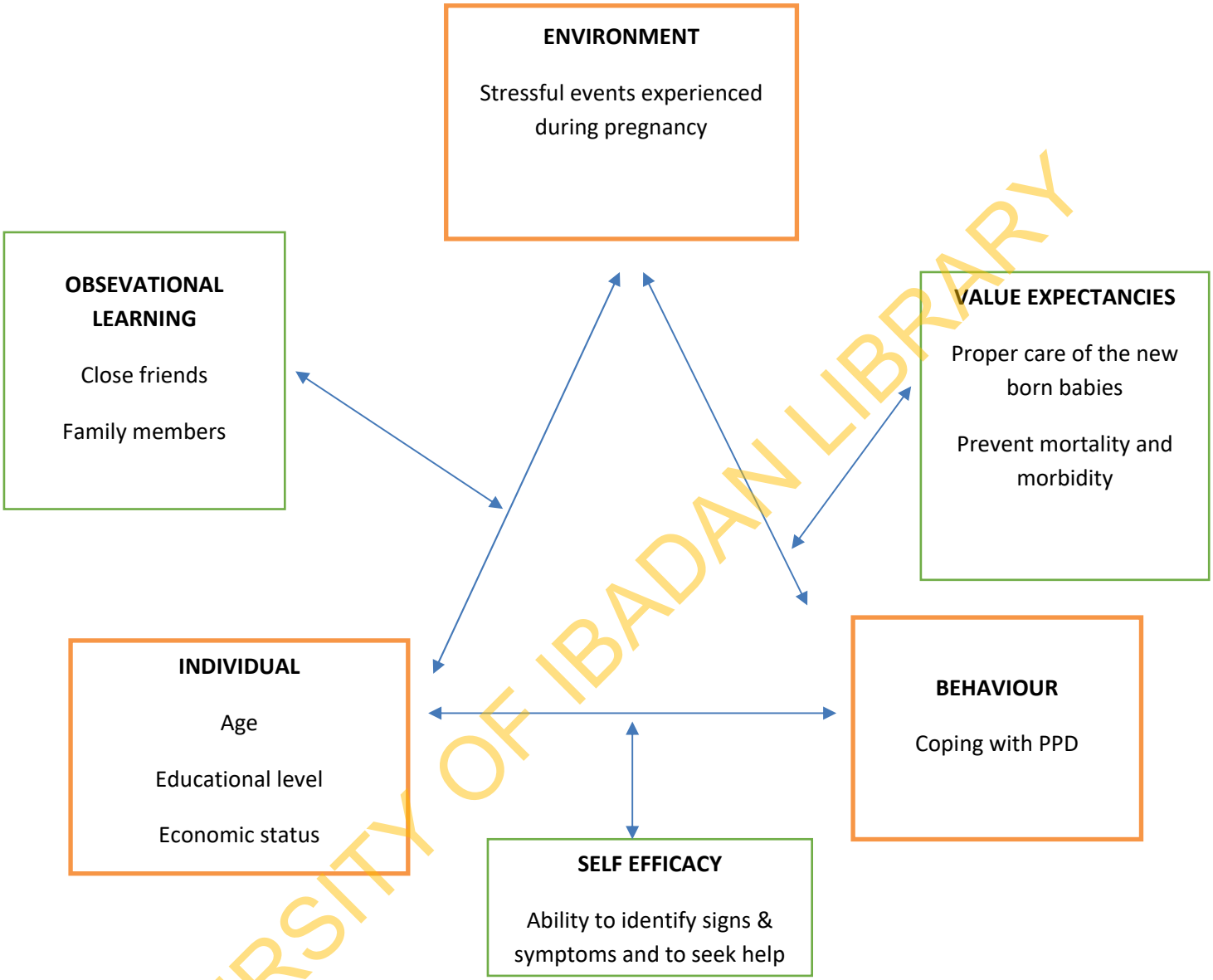


Figure 2.1: Application of the Social Learning Theory

CHAPTER THREE

METHODOLOGY

3.1 Study design

The study was a community-based descriptive cross-sectional survey.

3.2 Study location

The study was conducted in Ibadan. Ibadan is located in the South West of Nigeria. It is the largest city in West Africa and the capital of Oyo state. Ibadan was formally called Igbori-Ipara, that is the forest of Ipara, this is because the forest acted as the boundary between towns where the Ijebus, Egbas, and the Oyos occupied. The name changed to Ibadan as more people settled and lived there.

Ibadan occupies a large area of 3132.30 km^2, 15% of which falls within the urban sector, the remaining 85% are in the rural setting. 11 local government areas were created in Ibadan in 1991 by the then Military Head of State, Major General Ibrahim Gbadamosi Babangida (Rtd) during the nationwide general reforms. Five of the local government areas are urban based while the remaining six are rural based. Ibadan North East Local Government Area falls within the urban based local government areas.

The study was conducted in communities under Ibadan North East Local Government Area, Ibadan, Oyo State. Ibadan North East Local Government Area was created by the Federal Military Government of Nigeria on 27th August, 1991 from the defunct Ibadan Municipal Government. The headquarters of the Council which is one of the most urban Local Government in Oyo State is accommodated at Iwo Road Barracks, Ibadan. The Local Government is bounded in the East by Egbeda and Ona-Ara Local Governments in the West by Ibadan North Local Government, in the North, the Local Government share boundaries with Lagelu and Akinyele Local Governments and with Ibadan South-East Local Government in the South. The 2006 population census credited Ibadan North East Local Government with 331,444 people (National Population Commission of Nigeria, National Bureau of Statistics 2017) but the current figure of the population cannot be less than a million people. The Local Government has multi-ethnic

nationalities. Though, predominantly Yoruba; other nationalities include the Igbo, Urobo, Itsekiri, Ijaw, Hausa etc. It shares boundaries with Egbeda, Ona-ara, Ibadan South East LGAs. The estimated population of Ibadan Northeast as at 2016 was 465,700 (National Population Commission of Nigeria, National Bureau of Statistics, 2017).

Yoruba and English languages are widely spoken in the area while Islam and Christianity are the commonly practiced religions in the LGA. Ibadan North East LGA occupies a total area of 18 square kilometres. The populace consists of civil servants, teachers, traders and artisans. The main business activity in the Local Government area is buying and selling of different types of goods ranging from household needs, foodstuff, building/electrical materials. Most of the markets of historical and commercial significance in Oyo State are located within the Local Government. Among such markets are; Oje Market, Oranyan Market, Agodi gate spare parts Market. Also, Building materials of all kinds are readily available in the popular Iwo road axis, one of the greatest commercial center in Ibadan, where no fewer than 16 Banks are located. There are also ultra modern shopping complexes owned by private individuals and the Local Government.

Table 3.1: Categorisation of wards in Ibadan North East Local Government Area

WARDS	COMMUNITIES
1	Odo-osun, Labiran
2	Ogbori efon, Ita Baale, Oranyan, Beyerunka
3	Kosodo, Labo, Alafara
4	Adekile, Aremo, Orita-aperin
5	Labiran-aderogba, Beyerunka
6	Oje-aderogba, Alafara
7	Oke-offa, Atipe, Oja-igbo, Aremo-alafara, Ajegede
8	Ode-aje, Padi, Alase-aremo ajibola
9	Koloko, Agugu, Oke-ibadan, Idi-obi
10	Oje-irefin, Ita-akinloye, Baba-sale, Padi
11	Iwo-road, Abayomi, Bashorun, Idi-ape, BCOS quarters
12	Part of irefin, Agodi-gate, Oluyoro, Gbenla, Oke-adu, Aromolaran, Onipepeye

3.3 Study population

The study population for this study comprised of mothers of infants living in the communities selected from the six wards under Ibadan North East Local Government Area.

3.4 Inclusion criterion

Mothers with children less than 12 months old who are resident of the study area as at the time the study was conducted were included in the study

3.5 Exclusion criterion

Eligible mothers who were not willing to participate were excluded.

3.6 Determination of sample size

The sample size for this study was estimated using Fischer's formula.

$$n = \frac{z^2pq}{d^2}$$

Where n = the desired sample size

z = the standard normal deviate set at 1.96 [95% confidence level (CI)]

p = the proportion in the target population estimated to have the disorder (22.9%)(Chinawa et.al 2016)

q = 1-p (1 - 0.229 = 0.771)

d = desired level of accuracy, set at 0.05

$$n = \frac{1.96^2 \times 0.2229 \times 0.771}{0.0025}$$

n = 271

The non-response rate was calculated as; $\frac{271}{1- 0.10}$

The estimated sample size was 271 but the number was increased to 301 after adding 10.0% non-response rate

3.7 Sampling technique

A four stage multi-stage sampling technique was used in selecting respondents that participated in the study. There are twelve wards with a total of about 44 communities in Ibadan North East Local Government Area, each consisting of a number of households/compounds. The procedures for the selection of respondents are highlighted below:

Stage 1: Out of the 12 wards in Ibadan North East Local Government, six wards were randomly selected by balloting.

Stage 2: A list of all the communities in the selected ward was made and 50% of the total number of the communities was randomly selected by balloting from each of the wards.

Stage 3: Proportionate sampling technique was used to determine the sample size from each selected community. Number of respondents from each community was calculated by; number of communities in a ward divided by the total number of communities in the six wards multiplied by the sample size (Table 3.2) and a total of 320 respondents were selected

Stage 4: Houses were systematically selected in the communities. In houses where there were more than one eligible participant, balloting was done to select a participant for the study.

Table 3.2: Calculation of the number of respondents from each community

Ward	Communities	Sample size determination	Number of respondents
1	Odo-osun, Labiran	$\frac{2}{23} \times 301$	26
2	Ogbori efon, Ita Baale, Oranyan, Beyerunka	$\frac{4}{23} \times 301$	52
4	Adekile, Aremo, Orita-aperin	$\frac{3}{23} \times 301$	39
6	Oje-aderogba, Alafara	$\frac{2}{23} \times 301$	26
11	Iwo-road, Abayomi, Bashorun, Idi-ape, BCOS quarters	$\frac{5}{23} \times 301$	65
12	Part of irefin, Agodi-gate, Oluyoro, Gbenla, Oke-adu, Aromolaran, Onipepeye	$\frac{7}{23} \times 301$	92
Total			**300**

Three hundred and twenty respondents were recruited

3.8 Instrument for data collection

Quantitative method was used for data collection. The instrument employed for data collection was a semi-structured interviewer-administered questionnaire developed to assess knowledge and perceived factors of postpartum depression. The Edinburgh Postnatal depression scale and a Brief COPE scale were adapted to screen for postpartum depression and measure the coping mechanisms respectively. The first section elicited data on socio-demographics of the respondents, second section elicited information on knowledge of PPD, the third section was factors associated with PPD while the fourth section was the EPDS to screen for depression, and the fifth section was the Brief COPE.

The knowledge questions was graded on a 10 point scale, with score of 0-3 rated as poor, 4-7 rated as fair and 8-10 rated as good.The EPDS cut off score for the study was 10. Participants who scored 10 and above on the EPDS were administered the Brief COPE. The EPDS is a Screening tool for postpartum depression; it contains 10 items with each item bearing 4 sub-questions. These questions were graded. Response categories were scored 0, 1, 2, and 3 according to increased severity of the symptom. The total score was calculated by adding the scores for each of the 10 items, score between 10 and 30 suggest depressions.

The Brief COPE is the abridged version of the original COPE inventory and assesses 14 coping types with 28 questions. As this was an interviewer administered, the items were rephrased into questions. The responses to these questions were measured on a 4-point likert-type scale with responses ranging from 1 (‘‘I’ve not done this at all’’) to 4 (‘‘I’ve been doing this a lot’’). The cut-off score for depression in this study was 10 and above. Frequencies of the 28 items of the Brief COPE scale were calculated into the four Likert categories. The 28 items of the Brief COPE scale were then summed into 14 subscales/coping styles and the frequencies were calculated. The 14 subscales/coping styles are; Active coping (Items 2 and 7), Planning (Items 14 and 25), Positive reframing (Items 12 and 17), Acceptance (Items 20 and 24), Humor(Items 18 and 28), Religion (Items 22 and 27), Emotional support (Items5 and 15), Instrumental support (items 10 and 23), Self-distraction (Items 1 and 19), Denial (Items 3 and 8), Venting (Items 9 and 21), Substance use (Items 4 and 11), Behavioural disengagement (Items 6 and 16), and Self-blame (Items 13 and 26) and their frequencies was calculated.

3.9 Data collection procedure

For the study, serially numbered interviewer-administered questionnaire was used. The data was collected by the researcher with the help of four (4) research assistants who were trained prior to the time of data collection. The research assistants moved from house to house in the community to select the eligible participants. Both the benefits and the possible harms that could arise as a result of participating in the study was explained to the research participants. The informed consent forms (attached to the questionnaires) were read to the potential participants after they had been given adequate information about the study. Then, after the questionnaire had been filled, the researcher checked for completeness and errors before leaving the field.

Recruitment and training of research assistants: Four (4) experienced research assistants (women) were recruited and trained on the ways and method of data collection. They were trained for two days with the developed training manual. During the training, participatory approach was adopted and everyone was involved. Demonstration and return demonstration (role play) was involved.

3.10 Validity and Reliability of Instrument

Validity: Instrument validity is to test whether the instrument is valid. That is, how well it measures what it is supposed to measure. In order to establish validity of the instruments, the researcher reviewed relevant literatures to arrive at research questions. The researcher also subjected the instrument to scrutiny by experts in clinical science to validate the instrument and the supervisor was consulted to give a valid template of how the instrument should be. These individuals edited and made useful corrections and suggestions before the actual administration of the questionnaire to the study participant.

Reliability of instrument: Reliability of an instrument is a measure of stability and consistency of the measuring instrument. An instrument is reliable if it gives similar results after several administrations under similar conditions.

In establishing the reliability of the instrument, the researcher applied the pre-test technique. The pre-test technique is a process whereby the researcher shall administer the constructed questionnaire to 10% of the total study population in another representative population but the

filled questionnaire for the pre-test shall not be used in the final analysis of the work. The pre-test of this study was carried out among mother of infant in Ibadan North West local government area - a similar population group. A Cronbach Alpha measurement and reliability co-efficient measure was carried out on the pre-test questionnaire to know how reliable the instrument was. A co-efficient of 0.73 was obtained.

3.11 Data Management and Analysis

Serial number was written on the copies of the questionnaire for easy entry and recall. A coding guide was developed along with the data collection tool in order to facilitate its analysis. Questionnaires were reviewed to ensure consistency and completeness. Cleaning and coding of data for analysis was also done. Using the coding guide, the data collected was carefully entered into the Statistical Package for Social Science (SPSS IBM version 20) statistical software and analysed using descriptive statistics such as mean and inferential statistics such as Chi-square and logistic regression. Knowledge questions were measured in 10 points scale and was categorised as 0-3 (poor), 4-7 (fair) and ≥8 as good. Logistic regression was used to estimate the adjusted odds ratios and 95% confidence interval for the associations between the perceived factors and PPD. The results obtained from the analysis was summarised and presented in prose and tables.

3.12 Ethical Consideration

Ethical approval was sought and obtained from the Oyo state, Research Ethics Review Committee before going to the field for data collection (AD13/479/1285). Also, written informed consent was attached to the questionnaire. To ensure confidentiality of research participants, identifiers such as names and other information that can reveal the identity of research participants were not included in the research instruments. The nature of the study, benefits and objectives was explained to the respondents and they were assured that the information given was treated with utmost confidentiality. Respondents were also intimated about the opportunity to withdraw their consent freely at any point during the study. Confidentiality of each participant was maximally maintained during and after the collection of their information. Information gathered from the respondents was stored in the computer for analysis by the researcher while copies of the filled instruments were kept for maximum safety.

CHAPTER FOUR

RESULTS

4.1 Socio-demographic characteristics

There were 320 respondents recruited for this study. Respondent's age ranged from 18 years old to 43 years old with mean age of 30.9±6.5, a higher proportion of the respondents were married (91.6%), while 4.1% were single, 0.3% were divorced, 3.1% were widowed and 0.9% were separated. More than half of the respondents practiced Islam as a religion (53.1%), with 44.4% practicing Christianity and 2.5% being traditional worshippers. The respondents comprised mostly of Yoruba ethnicity (88.4%) with individuals of Igbo ethnicity (11.6%) (Table 4.1). The highest level of education of respondents showed that half of the respondents (52.8%) had secondary school education, followed by tertiary education (20.6), with primary education being (16.3%) and vocational (1.3%), there were however, 9.0% of respondents with no formal education. The type of tertiary education obtained by the respondents included; university (15.2%), NCE (33.3%), HND (16.7%) and OND (34.8%). Husband's level of education was measured and it revealed that 40.0% of them had secondary education as the highest level of education, with tertiary (34.7%), primary education (13.4%), no formal education (7.5%) and 4.4% of them did vocational studies (Table 4.2).

Majority of the respondents (47.2%) were traders, followed by artisan (23.1%), civil servant (7.8%), house wife (4.1%), labourer/cleaner (8.40%), student (2.5%), professional (1.9%), however, 3.8% of them were unemployed (Table 4.3).

The years of marriage of respondents recorded showed; 1–5years (48.3%), 6–10years (31.0%), 11–15years (10.5%), 16 – 20years (8.8%) and ≥ 21years (1.4%). Larger proportion of the respondents (83.3%) was in a monogamous marriage while 16.7% were in polygyny. Majority of the respondents (89.1%) had ≤4 children while 11.0% had >4. Additionally, majority of them (86.3) had irregular income, and 13.8% had regular income (Table 4.4).

Table 4.1: Socio-demographic characteristics of respondents (N=320)

Socio-demographic	Freq.	Percent (%)
Age		
18 – 20	16	5.0
21 – 25	56	17.5
26 – 30	98	30.6
31 – 35	69	21.6
36 – 40	59	18.4
≥41	22	6.9
Marital Status		
Single	13	4.1
Married	293	91.6
Divorced	1	0.3
Widowed	10	3.1
Separated	3	0.9
Religion		
Islam	170	53.1
Christianity	142	44.4
Traditional	8	2.5
Ethnicity		
Yoruba	283	88.4
Igbo	37	11.6

Mean age of 30.9±6.5

Table 4.2: Respondents and husbands' Level of Education (N=320)

Highest level of education	Freq.	Percent (%)
No formal	29	9.0
Primary	52	16.3
Secondary	169	52.8
Vocational	4	1.3
Tertiary	66	20.6
Types of Tertiary		
NCE	22	33.3
OND	23	34.8
HND	11	16.7
University	10	15.2
Husbands Level of Education		
No formal	24	7.5
Primary	43	13.4
Secondary	128	40.0
Tertiary	111	34.7
Vocational	14	4.4
Type of husband's Tertiary		
NCE	23	20.7
OND	19	17.1
HND	20	18.1
University	49	44.1

Table 4.3: Occupation of respondents

Occupation	Freq	Percent (%)
Civil servant	25	7.8
House wife	13	4.1
Artisan	74	23.1
Labourer/Cleaner	27	8.4
Student	8	2.5
Unemployed	12	3.8
Trading	151	47.2
Professional	6	1.9
Others	4	1.3

Table 4.4: Respondents years of marriage

Years of marriage	Freq.	Percent (%)
1 – 5years	142	48.3
6 – 10years	91	31.0
11 – 15years	31	10.5
16 – 20years	26	8.8
≥ 21years	4	1.4
Type of marriage		
Polygyny	49	16.7
Monogamy	245	83.3
Number of children		
≤ 4	285	89.1
> 4	35	11
Monthly income		
Regular	44	13.8
Irregular	276	86.3

4.2 Respondents' knowledge about post-partum depression

One-hundred and twenty respondents (37.5%) said they know about post-partum depression of which, more ofthem (33.8%) got the information from health workers, followed by radio (15.4%), imam/pastor (12.9%), and family (10.5). Other sources of information of postpartum depression identified by the respondents included: television (9.5%), peer/friends (8.5%), social media (4.0%), newspaper/magazine (2.5%), social group (2.0%) with others like personal reading (1.0%) (Table 4.5).

A detailed exploration of the knowledge items showed that respondents had different understanding of postpartum depression, their responses were categorized as follow; problem facing after child (16.6), it causes mental fatigue (15.7). It leads to poor decision making/negative thinking (15.0), it leads to suicidal behavior (9.1), it causes injury to both mother and the baby (6.6%), loneliness (5.7%), baby's sickness (5.7), it causes irritation (5.7%), lack of care (5.0%), sadness/trauma (5.0%), no idea (5.0%), lack of money (4.1%), sleepless night (3.2%), child's temperament (Table 4.6).Respondents further showed poor level of knowledge on the nature of postpartum depression (32.5%) respondents correctly selected "it is a weakness of character" as false about postpartum depression, while 34.2% wrongly selected "it is a medical disorder" and "it is associated with child birth" (33.3%) as also false about postpartum depression (Table 4.7).

Furthermore, respondents' level of knowledge on the onset of postpartum depression was poor (25.8%) thirty-one respondents correctly selected "begins within the first 6 weeks of delivery, while 25.8% of the respondents wronglyh selected begins 2 weeks after delivery and 48.3% chose during pregnancy (Table 4.8).Respondents' knowledge on signs and symptoms of postpartum depression was good (93.3%) knew that always happy is not a sign of PPD. Another 95.8% knew that good decision making is not also a sign of postpartum depression. Almost all the respondents (98.3%) correctly chose normal memory as not a typical of patient suffering from postpartum depression. And another (99.2%) of them knew that normal energy is not a common symptom of postpartum depression (Table 4.9).

Respondents' knowledge on the consequences of postpartum depression was good (98.3%), as almost all of them knew that a mother that is postpartum depressed cannot take proper care of the

baby. In addition, 98.3% of the respondents rightly selected Avoidance as a way not to manage postpartum depression (Table 4.10).

The overall knowledge of respondents that knew about postpartum depression was deduced to be good from a 10 item multiple choice questions on signs, symptoms and management of postpartum depression. It was found that majority of the respondents (80.8%) had good knowledge with scores ≥8 while 19.2% had poor knowledge with scores 4-7. There were no scores below 4 (Table 4.11).

Table 4.5: Sources of information about PPD

Source of information	Freq.	Percent (%)
Health workers	68	33.8
Radio	31	15.4
Imam/Pastor	26	12.9
Family	21	10.5
Television	19	9.5
Peer/Friends	17	8.5
Newspaper/Magazine	5	2.5
Social media	8	4.0
Social group	4	2.0
Others	2	1.0

Multiple choices

Table 4.6: Respondents'knowledge of Postpartum depression

Knowledge	Freq.	Percent(%)
Problem facing after child	20	16.6
It causes mental fatigue	19	15.7
It leads to poor decision making/negative thinking	18	15.0
It leads to suicidal behaviour	11	9.1
It causes injury to both mother and the baby	8	6.6
Loneliness	7	5.7
Baby's sickness	7	5.7
It causes irritation	7	5.7
Lack of care	6	5.0
Sadness/Trauma	6	5.0
No Idea	6	5.0
Lack of money	5	4.1
Sleepless night	4	3.2
Child's temperament	3	2.4

Multiple responses

Table 4.7: Respondents' knowledge of PPD cont'd (N=120)

Knowledge	Freq.	Percent(%)
It is a medical disorder	41	34.2
It is a weakness of character*	39	32.5
It is associated with child birth	40	33.3

***Misconception**

Table 4.8: Knowledge about onset of PPD (N=120)

Onset of PPD	Freq.	Percent (%)
Begins within the first 6 weeks of delivery*	31	25.8
Begins 2 weeks after delivery	31	25.8
During Pregnancy	58	48.3
Factors that may trigger the onset of PPD		
Hormonal changes	17	14.2
Genetics	5	4.2
Traumatic event	17	14.2
Hormonal changes, Genetics AND Traumatic event*	81	67.5

**Correct responses*

Table 4.9: Knowledge on signs and symptoms of PPD(N=120)

Recognised sign & symptom of PPD	Freq.	Percent(%)
Feeling of sadness	1	0.8
Low or no energy	3	2.5
Always happy*	112	93.3
Fear of care for the baby	4	3.3
NOT a symptom of PPD		
Changes in appetite	5	4.2
Good decision making*	115	95.8
Typical of patients suffering from PPD		
Mental fatigue	2	1.7
Normal memory*	118	98.3
NOT a common symptom of PPD		
Poor motivation	1	0.8
Normal energy*	119	99.2

****Correctresponses***

Table 4.10: Knowledge of consequences associated with PPD/Management of PD

(N=120)

Not Consequences associated with PPD	**Freq.**	**Percent(%)**
Associated risk to the baby	1	0.8
Proper care of the baby*	118	98.3
Physical injury to the baby	1	0.8
Ways not to manage PPD		
Seeking medical help	1	0.8
Good social support	1	0.8
Avoidance*	118	98.3

***Correct response**

Table 4.11: Knowledge of PPD categorization

hKnowledge category	Freq.	Percent (%)
Fair (4-7)	23	19.2
Good (>7)	97	80.8
Total	**120**	**100.0**

4.3 Perceived factors associated with postpartum depression

Half of the respondents (50.6%) said they did not experience anxiety during the last pregnancy. And almost all of them (98.4%) do not smoke. Almost one-third (29.7%) of the respondents experienced adverse life event during last pregnancy. One-third of the respondents (31.9%) experienced relationship difficulty with in-laws during last pregnancy, while one-fifth (22.2%) of them experienced relationship difficulty with family of birth during last pregnancy.

Out of the respondents, (50.3%) said they got enough family support during last pregnancy, and more than half (63.1%) of them got support from friends during last pregnancy. One-third (34.1%) of the respondents did not plan the last pregnancy, and (49.5%) of them considered terminating the last pregnancy. More than half (52.3%) of them said their spouses considered terminating the last pregnancy, while more than one-fifth (23.9%) of the respondents attempted to terminate the last pregnancy.

Significant proportion (93.4%) of the respondents received physical assistance during last pregnancy. And more than half (57.3%) of them received the assistance all through the pregnancy. While almost all of them (93.4%) also received physical assistance after birth, with one-third (30.8%) of them receiving the assistance for only some days after birth.

A few (15.6%) of the respondents had family history of depression, with another one-fifth (21.9%) of them with previous history of depression. More than half (60.6%)of the respondents had good marital relationship, and 72.2% had a close friend to talk to during the last pregnancy. Another one-fifth (21.3%) of the respondents have had miscarriage, with majority (77.5%) of them having had one miscarriage.

Additionally, a significant proportion (81.6%) of the respondents had normal vagina delivery for last child, and almost half (48.4%) of them had no preference to last child's sex. While majority (79.7%) of the respondents were not disappointed with the sex of the last child, and 95.0% said there was no congenital malformation in the child (Table 4.12).

Table 4.12: Factors associated with PPD (N=320)

Factors associated with PPD	Yes (%)	No (%)
Anxiety during last pregnancy	158 (49.4)	162 (50.6)
Smoking	5 (1.6)	315 (98.4)
Adverse life event during last pregnancy	95 (29.7)	225 (70.3)
Relationship difficulty with in-laws during last pregnancy	102 (31.9)	218 (68.1)
Relationship difficulty with family of birth during last pregnancy	71 (22.2)	249 (77.8)
Support from friends during last pregnancy	202 (63.1)	118 (36.9)
Plan last pregnancy	211 (65.9)	109 (34.1)
Consider terminating last pregnancy	54 (49.5)	55 (50.5)
Spouse consider terminating last pregnancy	57 (52.3)	52 (47.7)
Attempt to terminate last pregnancy	26 (23.9)	83 (76.1)
Physical assistance during last pregnancy	294 (91.9)	26 (8.1)
Physical assistance after birth	299 (93.4)	21 (6.6)
Family history of depression	50 (15.6)	270 (84.4)
Previous history of depression	70 (21.9)	250 (78.1)
Close friend to talk to during last pregnancy	231 (72.2)	89 (27.8)
Had miscarriage	68 (21.3)	252 (78.8)
Congenital malformation in last child	16 (5.0)	304 (95.0)
Disappointed with the sex of the last child	65 (20.3)	255 (79.7)

4.4: Screening for PPD using the Edinburgh Postnatal Depression Scale (EPDS)

In the EPDS, (45.0%) of the respondents chose 'as much as I always could' to the question; have you been able to laugh in the last seven days. The question, have you looked forward with enjoyment had (44.4%) of respondents with the response of 'as much as I ever did'. And the question, have you blamed yourself when things went wrong had the response of 'yes, most of the time' by (13.1%) of the respondents.

Being anxious for no good reason had (31.6%) with 'no, not at all, and felt scared for no good reason had (14.7%) answered as 'yes, sometimes'(Table 4.13), while respondents responded to things getting on top of you with (15.9%) choosing 'yes, sometimes I haven't been coping as well as usual. And (27.5%) of the respondents chose 'yes, sometimes' to the question; have you been so unhappy that you've had sleeping difficulty.

More than half (57.5%) of the respondents chose 'no, not at all' to the question; have you felt sad or miserable, with more than half (58.1%) of them choosing 'no, never' to the question; have been unhappy and be crying. And (78.4%) of them chose 'never' to; have you ever thought of harming yourself (Table 4.14). The prevalence of PPD was (30.6%), ninety-eight respondents scored 10 and above, which amount to one-third of total respondents.

Table 4.13: Screening for PPD using Edinburgh Postnatal Depression Scale (EPDS)

(N=320)

Items	Freq.	Percent(%)
Been able to laugh		
As much as I always could	144	45.0
Not quite so much now	96	30.0
Definitely not so much now	61	19.1
Not at all	19	5.9
Looked forward with enjoyment		
As much as I ever did	142	44.4
Rather less than I used to	99	30.9
Definitely less than I used to	56	17.5
Hardly at all	23	7.2
Blamed yourself when things went wrong		
Yes, most of the time	42	13.1
Yes, some of the time	89	27.8
Not, very often	103	32.2
No, never	86	26.9
Anxious for no good reason		
No, not at all	101	31.6
Hardly ever	127	39.7
Yes, sometimes	85	26.6
Yes, very often	7	2.2
Felt scared for no good reason		
Yes, quite a lot	17	5.3
Yes, sometimes	47	14.7
No, not much	119	37.2
No, not at all	137	42.8

Table 4.14: Screening for PPD using EPDS cont'd

Items	Freq.	Percent (%)
Things getting on top you		
Yes, most of the time I haven't been able to cope at all	17	5.3
Yes, sometimes I haven't been coping as well as usual	51	15.9
No, most of the time I have coped quite well	125	39.1
No, I have been coping as well as ever	127	39.7
Been so unhappy that had sleeping difficulty		
Yes, most of the time	20	6.3
Yes, sometimes	88	27.5
Not very often	92	28.8
No, not at all	120	37.5
Felt sad or miserable		
Yes, most of the time	11	3.4
Yes, sometimes	47	14.7
Not very often	78	24.4
No, not at all	184	57.5
Been unhappy & been crying		
Yes, most of the time	11	3.4
Yes, quite often	44	13.8
Only occasionally	79	24.7
No, never	186	58.1
Thought of harming yourself		
Yes, quite often	3	0.9
Sometimes	33	10.3
Hardly ever	33	10.3
Never	251	78.4

4.5 Coping mechanisms used by respondents

More than one-third (37.8%) of the respondents said they have been turning to work or other activities a lot, While another (41.8%) of them chose 'I have been doing this a lot' for concentrating your efforts on doing something about it, And (8.2%) also chose 'I have been doing this a lot' for saying this is not real. Also (10.2%) of them chose 'I have been doing this a lot' to using alcohol or other drugs to feel better.

Respondents who chose 'I have been doing this a lot' for getting emotional support from someone were (30.6%), with a (29.6%) of respondents that also chose 'I have been doing this a lot' for giving up trying to deal with it. While, 'I have been doing this a lot' was chosen by (29.6%) of the respondents for taking actions to make situation better, and (22.4%) of them also chose 'I have been doing this a lot' for refusing to believe it has happened.

More than one-third (33.7%) of the respondents selected 'I have been doing this a lot' for saying things to let unpleasant feelings escape. One-third (30.6%) of them selected 'I have been doing this a lot' for been getting help and advice, while 11.2% of them chose 'I have been doing this a lot' for been using alcohol to get through it. And more than one-third (36.7%) of them selected 'I have been doing this a lot' for trying to see it in different light.

A few of the respondents (14.3%) selected 'I have been doing this a lot' for criticizing yourself. More than quarter (43.9%) of them selected 'I have been doing this a lot' for trying to come up with a strategy, while another (32.7%) of them said they have been doing a lot of getting comfort from someone. And 18.4% of them cose 'I have been doing this a lot' for giving up attempt to cope.

Furthermore, almost most more than one-third (31.6%) of the respondents said they have been doing a lot of looking for something good in it. A few (11.2%) of them chose 'I have been doing this a lot' for making jokes about it, while another 29.6% of them said they have been doing something like watching Tv a lot. And more than one-third (32.0%) of them selected 'I have been doing this a lot' for accepting the reality.

Additionally, more than one-third (31.6%) of the respondents selected 'I have been doing this a lot' for expressing negative feeling. More than quarter (43.9%) of them have been doing a lot of finding comfort in religion, while more (52.0%) than half of them chose 'I have been doing this a lot' for getting advice or help from other people. And more than one-third (34.7%) of them chose 'I have been doing this a lot' for learn to live with it.

Respondents that chose 'I have been doing this a lot' for thinking about steps to take were 40.8%. One-fifth (20.4%) of the respondents selected 'I have been doing this a lot' for blaming yourself for things that happened, while more than half (59.2%) of them chose 'I have been doing this a lot' for praying or meditating. And a small proportion of them (9.2%) selected 'I have been doing this a lot' for making fun of the situation (Table 4.15).

A significant proportion of the respondents (88.8%) made use of active coping, with another significant (89.8%) of them who used instrumental support, while another (89.8%) of them used used Planning coping style. And (88.8%) of them also used Acceptance as a coping style. Emotional support was used by (81.6%) of the respondents. Only few (23.5%) of them used Humor, while a large proportion (85.7%) of the respondents used Positive reframing. And almost (90.8%) of them used Religion as a coping style.Additionally, 60.2% of the respondents used behavioural disengagement, while less than half (44.9%) of them used denial. A good significant (85.7%) of the respondents used self-distraction, while more than half (60.2%) of them used self-blame, with a few (29.6%) of them with substance use, and 69.4% of them used venting (Table 4.16).

Table 4.15: Coping mechanisms of respondents (N=98)

Coping mechanism	I haven't been doing this at all (%)	I have been doing this a little bit (%)	I have been doing this a medium time (%)	I have been doing this a lot (%)
Turning to work or other activities	6 (6.1)	19 (19.4)	36 (36.7)	37 (37.8)
Concentrating your efforts	2 (2.0)	23 (23.5)	32 (32.7)	41 (41.8)
Saying this is not real	36 (36.7)	30 (30.6)	24 (24.5)	8 (8.2)
Using alcohol or other drugs to feel better	60 (61.2)	13 (13.3)	15 (15.3)	10 (10.2)
Getting emotional support from someone	6 (6.1)	26 (26.5)	36 (36.7)	30 (30.6)
Giving up trying to deal with it	20 (20.4)	28 (28.6)	21 (21.4)	29 (29.6)
Taking actions to make situation better	7 (7.1)	23 (23.5)	39 (39.8	29 (29.6)
Refusing to believe it has happened	26 (26.5)	29 (29.6)	21 (21.4)	22 (22.4)
Saying things to let unpleasant feelings escape	10 (10.2)	30 (30.6)	25 (25.5)	33 (33.7)
Been getting help and advice	5 (5.1)	30 (30.6)	33 (33.7)	30 (30.6)
Been using alcohol to get through it	60 (61.2)	8 (8.2)	19 (19.4)	11 (11.2)
Been trying to see it in different light	9 (9.2)	29 (29.6)	24 (24.5)	36 (36.7)
Criticizing yourself	22 (22.4)	23 (23.5)	39 (39.8)	14 (14.3)
Trying to come up with a strategy	6 (6.1)	19 (19.4)	30 (30.6)	43 (43.9)
Getting comfort from someone	5 (5.1)	37 (37.8)	24 (24.5)	32 (32.7)
Giving up attempt to cope	31 (31.6)	31 (31.6)	18 (18.4)	18 (18.4)
Looking for something good in it	4 (4.1)	22 (22.4)	41 (41.8)	31 (31.6)
Make jokes about it	63 (64.3)	16 (16.3)	8 (8.2)	11 (11.2)
Been doing something like watching Tv	8 (8.2)	22 (22.4)	39 (39.8)	29 (29.6)
Accepting the reality	5 (5.2)	20 (20.6)	41 (42.3)	31 (32.0)
Expressing negative feeling	23 (23.5)	30 (30.6)	14 (14.3)	31 (31.6)
Find comfort in religion	3 (3.1)	26 (26.5)	26 (26.5)	43 (43.9)
Get advice or help from other people	4 (4.1)	19 (19.4)	24 (24.5)	51 (52.0)
Learn to live with it	9 (9.2)	29 (29.6)	26 (26.5)	34 (34.7)
Thinking about steps to take	4 (4.1)	23 (23.5)	31 (31.6)	40 (40.8)
Blaming yourself for things that happened	21 (21.4)	35 (35.7)	22 (22.4)	20 (20. 4)
Praying or meditating	2 (2.0)	12 (12.2)	26 (26.5)	58 (59.2)
Making fun of the situation	70 (71.4)	14 (14.3)	5 (5.1)	9 (9.2)

Table 4.16: Coping styles category

Coping styles	Freq.	Percent (%)
Religion	89	90.8
Instrumental support	88	89.8
Planning	88	89.8
Active coping	87	88.8
Acceptance	87	88.8
Positive reframing	84	85.7
Self-distraction	84	85.7
Emotional support	80	81.6
Venting	68	69.4
Behavioral disengagement	59	60.2
Self-blame	59	60.2
Denial	44	44.9
Substance use	29	29.6
Humor	23	23.5

Multiple responses

TEST OF HYPOTHESES

4.6 Relationship between respondents' socio-demographicscharacteristics and PPD (N=98)

Hypothesis One: There is no significant relationship between respondents' socio-demographic characteristics and PPD symptoms

There is no significant relationship between marital status and postpartum depression.

Chi-square test analysis was used in testing this hypothesis to statistically test for significant relationship between respondents' marital status and postpartum depression. Data showed that there was a significant relationship between respondents marital status and postpartum depression ($X^2=38.219, df=4, p < 0.05$). Therefore, the null hypothesis is rejected

There is no significant relationship between highest level of education and postpartum depression.

Chi-square test analysis was used in testing this hypothesis to statistically test for significant relationship between respondents' highest level of education and postpartum depression. Data showed that there was a significant relationship between respondents highest level of education and postpartum depression ($X^2=32.697, df=1, p < 0.05$). Therefore, the null hypothesis is rejected

There is no significant relationship between religion and postpartum depression.

Chi-square test analysis was used in testing this hypothesis to statistically test for significant relationship between respondents' religion and postpartum depression. Data showed that there was a significant relationship between respondents religion and postpartum depression ($X^2=17.087, df=1, p < 0.05$). Therefore, the null hypothesis is rejected

There is no significant relationship between type of marriage and postpartum depression.

Chi-square test analysis was used in testing this hypothesis to statistically test for significant relationship between respondents' type of marriage and postpartum depression. Data showed that there was a significant relationship between respondents' type of marriage and postpartum depression ($X^2=13.642, df=1, p < 0.05$). Therefore, the null hypothesis is rejected (Table 4.17).

Table 4.17: Relationship between respondents' socio demographic characteristics and PPD

Socio demographics	Depressed		X^2	p-value
	Yes (%)	No (%)		
Marital status				
Single	11(11.2)	2(0.9)	38.219**	< 0.001
Married	75(76.5)	218 (98.2)		
Divorced	1 (1.5)	0 (0.0)		
Widowed	9 (9.2)	1(0.5)		
Separated	2 (2.0)	1(0.5)		
Highest level of education				
No formal	13 (13.3)	11 (5.0)	32.697*	< 0.001
Primary	23 (23.5)	20 (9.0)		
Secondary	36 (36.7)	92 (41.4)		
Vocational	8 (8.2)	6 (2.7)		
Tertiary	18 (18.4)	93 (41.9)		
Religion				
Islam	67 (68.4)	103 (46.4)	17.087**	< 0.001
Christianity	27 (27.6)	115 (51.8)		
Traditional	4 (4.1)	4 (1.8)		
Type of Marriage				
Polygyny	23 (30.3)	26 (11.9)	13.642*	< 0.001
Monogamy	53 (69.7)	191 (88.1)		

Fisher's exact test significant

**Statistically Significant*

4.7 Relationship between respondents' knowledge score and PPD

Hypothesis Two: There is no significant relationship between respondents' knowledge score and postpartum depression.

Chi-square test analysis was used in testing this hypothesis to statistically test for significant relationship between respondents' knowledge score and postpartum depression. Data showed that there was no significant relationship between respondents knowledge score and postpartum depression ($X^2=3.63, df=1, p>0.05$). Therefore, the null hypothesis is accepted (Table 4.18).

Table 4.18: Relationship between respondents' knowledge score and PPD

Knowledge score	Depressed (%)	Not depressed (%)	X^2	P-value
4	0 (0.0)	0 (0.0)		
5	0 (0.0)	1 (100.0)	3.63	0.80
6	1 (50.0)	1 (50.0)		
7	5 (26.3)	15 (73.7)		
8	20 (32.3)	41 (67.2)		
9	10 (32.3)	21 (67.7)		
10	3 (60.0)	2 (40.0)		

Fisher's exact test. Not statistically significant

4.8 Adjusted predictors of PPD among respondents

The age group of the respondents showed that respondents between 21 – 25 years were 32% less likely to have PPD symptoms compared to the age group 18 -20years. (OR: 0.68, 95% CI 0.11 -4.12), 26 – 30 years are 1.5 times more likely to have PPD symptoms (OR: 1.53, 95% CI 0.42 – 5.60), 31 – 35 years are 1.5 times more likely to have PPD symptoms (OR: 1.50, 95% CI 0.43 – 5.20), 36 – 40 years are 1.2 times more likely to have PPD symptoms (OR: 1.22, 95% CI 0.34 – 4.50), and age group >40years are 2.7 times more likely to have PPD symptoms (OR: 2.67, 95% CI 0.74 -9.63). None of these associations was however found to be statistically significant.

The group of respondents who had no experience of anxiety during pregnancy were 60% less likely to have PPD symptoms compared to the group that experienced anxiety during pregnancy (OR: 0.40, 95% CI 0.20 -0.82), and it was found to be statistically significant (P-value <0.01). The respondents who did not experience adverse life event during pregnancy were 46% less likely to have PPD symptoms compared to those that experienced adverse life event during pregnancy (OR: 0.54, 95% CI 0.26 -1.11).

Respondents who did not experience relationship difficulty with family of birth during pregnancy were 71% less likely to have PPD symptoms compared to those who experienced relationship difficulty with family of birth during pregnancy (OR: 0.28, 95% CI 0.12 – 0.67) it was found to be statistically significant (p-value <0.01).

No previous history of depression was found to be protective against PPD as these respondents were 49% less likely to develop PPD symptoms compared to those with history of depression (OR: 0.52, 95% CI 0.22 – 1.21). it was not found to be statistically significant. Unplanned pregnancy was however found to be a causative factor for developing PPD symptoms as the respondents were 4.5 times more likely compared to those who planned the pregnancy (OR: 4.53, 95% CI 2.22 – 9.22), which was found to be statistically significant (P-value <0.01) (Table 4.19).

Table 4.19: Adjusted predictors of PPD among respondents

Factors	Odds ratio	95% Confidence Interval	P-value
Age group			
18-20	1.000		
21-25	0.683	0.111 - 4.189	0.680
26-30	1.531	0.419 – 5.600	0.520
31-35	1.496	0.431 -5.192	0.526
36-40	1.229	0.336 – 4.500	0.756
>40	2.671	0.741 – 9.629	0.133
Anxiety during pregnancy			
Yes	1.000		
No	0.402	0.198 – 0.819	0.012*
Adverse life event experience during pregnancy			
Yes	1.000		
No	0.539	0.262 – 1.106	0.092
Relationship difficulty experience with in-laws during pregnancy			
Yes	1.000		
No	0.701	0.335 – 1.469	0.347
Relationship difficulty experience with family of birth during pregnancy			
Yes	1.000		
No	0.281	0.119 – 0.666	0.004*
Physical assistance during pregnancy			
Yes	1.000		
No	1.614	0.535 – 4.868	0.396
Physical assistance after birth			
Yes	1.000		
No	0.687	0.214 – 2.202	0.527
Family history of depression			
Yes	1.000		
No	1.135	0.450 – 2.860	0.788
Previous history of depression			
Yes	1.000		
No	0.517	0,221 – 1.205	0.126
Previous miscarriage			
Yes	1.000		
No	1.143	0.491 – 2.658	0.757
Preference to the sex of the child			
Yes	1.000		
No	0.781	0.367 -1.663	0.522
Planned Pregnancy			
Yes	1.000		
No	4.526	2.223 – 9.216	0.000*

Statistically Significant

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Discussion

5.1.1 Socio-demographic characteristics of respondents

The age of respondents in the study ranged from 18–47years, Majority of the respondents were within the age range 26–30 years, those within the age range 31 – 35years were the next most numerous. The mean age of 30.9±6.5 years found in this study was observed to be comparable with the mean age of 28.4±12.1 from an earlier study to determine the prevalence of postnatal depression in western women carried out in Ile-Ife, Osun state by Adewuya et al. (2015). The implication of the mean age is that majority of the women are in the middle of their reproductve years, specifically, birth rates are highest for women ages 30 – 34 (100.3 births per 1,000 in 2017) as it was recorded in child trends (2018). It is therefore necessary to enlighten women even before this age group about postpartum depression.

Majority of the respondents were married, which was expected as the study was carried out among mothers, this is similar to the finding of Nakku et al. (2006) where more than half of the respondents were married. More than half of the respondents were Yoruba ethnic group predominant. This was not surprising since the study was conducted in Ibadan northeast local government of Oyo state, a south-western part of Nigeria. The proportion of the respondents who practiced Islam was higher compared to those who practiced Christianity and traditional religion. The educational status of mothers of infants in the community can be considered to be on the average since a little more than half 52.8% of them and their husbands' below average (40.0%) had secondary education as the highest level of education attained by them respectively. Respondents with secondary education were the highest followed by tertiary education likewise their husbands'. This can be attributed to the fact that the study was carried out in the community where all categories of people can be found. A higher percentage of the respondents engaged in trading as an occupation, this is expected since most people in the local government are in the private sector. This is in line with the finding of Johnson et al. (2015), where majority of the respondents were also traders. The proportion of the respondents who were in a monogamous marriage was higher compared to those who were in a polygamous marriage.

5.1.2 Knowledge of the respondents about PPD

It was established in this study that only one-third of the respondents (37.5%) were aware of PPD and they were the ones that answered the knowledge questions. This implies that there is a knowledge gap and awareness about PPD in this community. Out of the respondents who answered the knowledge questions, PPD meant different things to different people. The respondents understood PPD to mean different things; mental disorder, depression after birth, lack of care by spouse, unwanted position of mother and child, problem facing after child birth among. This agrees with a study conducted by Juntaruksa et al., (2017) where the husbands perceived PPD being caused by poor relationship within the family, life crisis etc.

Few of the respondents wrongly knew PPD as a weakness of character, while a little below average also wrongly knew the onset of PPD to be during pregnancy. This implies that there is misinformation about PPD among those that claimed to be aware of it. Majority of the respondents knew that hormonal changes, genetics and traumatic events could cause PPD. Additionally, on recognised signs and symptoms of PPD, a significant proportion of the respondents knew that always happy, good decision making, normal memory, and normal energy are not signs of PPD. Furthermore, almost all of the respondents knew that proper care of the baby is not a consequence associated with PPD and also avoidance is not a way to manage PPD.

Respondents overall mean knowledge score on PPD was 8.1±0.1 out of a 10 point knowledge scale which assessed understanding of PPD, onset of PPD, factors that may cause PPD, sign and symptom of PPD, consequences associated with PPD and ways to manage PPD. This implies a good knowledge of PPD among the respondents that answered the knowledge questions; however there are still more gaps to fill in relation to knowledge and awareness of PPD among women in the community. The respondents' major source of information about PPD was the health workers. This can also explain the mean knowledge score of the respondents, we can infer that majority of the respondents that knew about PPD and had good knowledge score received adequate information from the health workers. This is however similar to a study carried out among nurses-midwives in Bayelsa state where 57%, more than half of the respondents evaluated their information level on PPD as moderate (Joel et al., 2016).

5.1.3 Perceived factors associated with PPD

According to the literature, several factors have been associated with PPD. Tungchaman, Obindo, Armiya'u et al., (2018) have shown in their study among women attending postnatal and/or children's welfare clinics in a tertiary hospital in Jos that mother's age, mother's level of education, and marital status have association with PPD. Nakku et al., (2006) also found mother's age, negative life events, unplanned pregnancy and baby characteristics to be associated with PPD. While Weobong, Asbroek, Soremekun, et al., (2015), in their study also found experience of stillbirth/miscarriages, and giving birth in the dry season (harmattan) to be associated with an increased risk of PPD.

However, Stewart et al., (2003) found the strongest predictors of PPD to include; depression during pregnancy, anxiety during pregnancy, experiencing stressful life event during pregnancy, low level of social support and having a previous history of depression. the same variables was observed in this study, 49.4% of the respondents said they experienced anxiety during pregnancy, 29.7% experienced adverse life event during pregnancy, 31.9% experienced relationship difficulty with in-laws, 45.3% did not get enough family support during pregnancy, 34.1% did not plan the pregnancy. This is in line with the variables from the study of Gomez et al., (2016), And Weobong et al., (2015). Findings from this study revealed the fact that psychosocial factors, and obstetric factor can predispose a woman to postpartum depressive symptoms.

After adjusting for other variables, the study showed that respondents within the age group >40 were two times more likely to develop PPD symptoms than those who were within the age group 18-20, just as those within the age group 36-40 were more likely to develop PPD symptoms than 18-20years. This is contrary to Ijadola et al.'s findings that reported mother's younger than 25 years of age to be two times more likely to be depressed (Ijadola et al., 2005). However, it was not statistically significant as found in other studies (Weobong et al., 2015). Respondents who experienced anxiety during pregnancy were 60.0% less likely to develop PPD symptoms compared to their counterparts who experienced it; this was found to be statistically significant in the study. This corroborates the findings that anxiety during pregnancy is associated with PPD as stated in literature. This study found an association between relationship difficulty experience with family of birth during pregnancy. Respondents who did not experience relationship difficulty with their family of birth were 72% less likely to develop PPD symptoms than those who did. This finding supports the idea

that psychosocial factors particularly family support may have a big role to play in the prevention of PPD. Also for planned pregnancy, the study showed that respondents who had unplanned pregnancy were four times more likely to develop PPD symptoms than those who planned their pregnancy and also found statistical association. This shows a trend similar to a study conducted in Uganda by Nakku et al., (2006).

5.1.4 Prevalence of PPD symptoms

The overall prevalence of PPD symptoms among the respondents was 30.6%. This can be compared with the prevalence in other studies. Obindo et al. in 2013 got a higher prevalence of 39.9%; 21.8% by Tungchama et al., (2018) 22.9% by Chinawa et al.(2016). However, some studies have found relatively lower prevalence rates of PPD like 14.6% by Adewuya et al. (2005), 13% by Madeghe et al. (2016), 6.1% by Nakku et al. (2006). Other studies found relatively higher prevalence than this study include; Kazi et al. who reported prevalence range of 28% and 57.0% for PPD in Pakistan. The discrepancy in the prevalence rates in this study and the other studies could be methodological differences, the location where the studies were being carried out, the method of data collection, the time of postpartum screening, the instrument used for data collection and the cut off score for classifying mothers with depressed symptoms. As in this study, the postpartum screening period was between 1-12months, the reason for this is the fact that PPD usually begins within 1-12months (Stewart et al., 2013). Also this study was conducted in the community and included those who do not attend postnatal clinic.

A higher proportion of married (76.5%) respondents were depressed compared to those single, divorced, widowed and separated. This is contrary to the findings from other studies that found higher prevalence of PPD among the single mothers (Tungchama et al., 2018). The plausible explanation for this is the fact that almost all of the respondents (91.6%) in this study were married and also, may be just being married is not as important as the kind of marital relationship the spouses maintain, because more than a third (33.9%) of the respondents rated their marital relationship as fair. Among the respondents' educational status, the highest proportion (36.7%) of depressed symptoms were those with secondary education with more than a quarter (23.5%) with primary education. This disagrees with the findings of Tungchama et al., (2018), who reported that those with no formal education were more likely to be depressed than those with any form of education. The high prevalence of

postpartum depression found reinforces its significance as a public health issue, requiring prevention and treatment strategies.

5.1.5 Coping mechanisms of PPD

In this study, the frequency of different coping styles was studied. A significant proportion of the respondents found comfort and relief in religious practices. Religious coping had the highest percentage of utilisation. The probable explanation for high score on religion is that, people in this part of the world have so much belief in religion and would probably seek help through religious means first, before seeking for alternative care. Instrumental support and planning coping styles were similarly utilised with 89.8% of the respondents adopting them as types of coping. While, active coping and acceptance were also used at the same level by the respondents, however, substance use as a coping style was minimally used by the respondents.

A probable explanation for the lowest score on the questions of substance abuse, that is, ‘‘use of alcohol or other drugs to feel better’’ is that, the study was conducted among women. Women are less likely to be involved in substance abuse, Islam also prohibits alcohol and more than half of the respondents (53.1%) were Muslims. And also the society largely favours the use of alcohol products among men, a woman that drinks is mostly seen as unruly even though this impression is becoming less communal. This is supported by what Kasi et al., (2012) found in pakistan among patients with anxiety and depression.

5.1.6 Implication of the result for Health Promotion and Education

Findings from the study revealed low level of awareness, high prevalence and predictors of PPD among the respondents which indicates the need for health education and sensitization of the public (both men and women) on PPD. A large number of respondents did not get enough support from their families during pregnancy and after birth and Social support provided by close relations and professionals plays a protective role and modulates the impact of stress on physical health and psychological well-being (Barrera, 1986; Sarason and Sarason, 1990; Bruchon-Schweitzer, 2002; Razurel et al., 2011). This calls for enlightenment of the public on the importance of social support for women in perinatal period. Majority of the respondents made use of religious coping style as a way of getting over their feelings. Hence, there is need for programme managers to collaborate with the faith based institutions sensitizing the public and organising psycho-social interventions.

5.2 Conclusion

The study showed that, the prevalence of PPD among mothers of infants in Ibadan North East Local Government Area, Ibadan, Oyo state is relatively high compared to the prevalence among mothers seen in the tertiary health institution in Ile-Ife, Osun state. It also showed a low level of awareness among the entire population in the study but good knowledge among the few of them that are aware of the condition. Out of all the psycho-social, obstetric and new born factors, anxiety during pregnancy, unplanned pregnancy and relationship difficulties with family of birth were statistically significant. Level of education, religion, marital status and type of marriage were also found to be associated with PPD among the socio-demographic factors. Majority of them used religious coping style by finding solace and relief in prayer. Women need to be rightly informed and educated before child bearing about PPD for early identification of the signs even among counterparts, as well as the importance of help seeking.

5.3 Recommendations

The following recommendations were made based on the findings of this study:

1. Need for awareness and education for mothers of infants on PPD at the community level by government and other stakeholders in maternal and child health.
2. Continuous enlightenment on the importance of adequate social support for women during pregnancy and after birth through community health workers during antenatal routines.
3. Involvement of religious houses as a health promoting setting in providing education and support for mothers during perinatal period.
4. Psychosocial interventions should be initiated for mothers who show signs of depression under maternal welfare programme.

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APPENDICE

APPENDIX I

QUESTIONNAIRE

PREVALENCE AND COPING MECHANISMS OF POSTPARTUM DEPRESSION AMONG MOTHERS OF INFANTS IN IBADAN NORTH-EAST LOCAL GOVERNMENT AREA, IBADAN, OYO STATE, NIGERIA

Dear Respondent,

My name is Aminat Olamide, ADELODUN, a post graduate student at the departmsent of Health Promotion and Education, Faculty of Public Health, College of Medicine, University of Ibadan. I am carrying out a research on the PREVALENCE AND COPING MECHANISMS FOR POSTPARTUM DEPRESSION AMONG MOTHERS OF INFANTS IN IBADAN NORTH-EAST LOCAL GOVERNMENT AREA, IBADAN, NIGERIA**.** The findingsfrom this study will help in the design of programmes and formulation of policies aimed at reducing maternal and child health mortality and morbidity. Please note that your participation in this study is entirely voluntary. Each questionnaire has been given a CODE NUMBER to conceal your identity. All information that would be collected during this study will be treated with utmost confidentiality. Your participation in this study is very important as it would help to better understand mothers' experience of postpartum depression and how they coped. Please also note that there are no right or wrong answers to the questions asked or the statements made. The time needed to complete this questionnaire is approximately 20-25 minutes. Your willingness to be interviewed implies you have given consent to participate. Thank you for your interest in this study.

Serial Number_____

Please answer all the questions as honestly and accurately as you can — this is very important.

SECTION A: SOCIO-DEMOGRAPHIC CHARACTERISTICS

Instruction: Kindly respond appropriately to the following by marking or writing as appropriate in the space provided.

1. What is your age as at last birthday (in years) _____

2. **Marital status**: 1= Single 2= Married 3=Divorced 4=Widowed 5= Separated

3. **Religion**: 1=Islam 2= Christianity 3=Traditional 4=Others

4. **Ethnicity**: 1= Yoruba 2=Igbo 3= Hausa 4=Others

5. **Highest Level of education**: 1 = No formal education 2 = Primary 3 =Secondary 4 =Vocational 5 = Tertiary: 1 = NCE 2 = OND 3 = HND 4 = University

6 **Husband's highest level of education**: 1 = No formal education 2 = Primary 3 = Secondary 4 = Vocational 5 = Tertiary; 1 = NCE 2= OND 3 = HND 4 = University

7. **Occupation**: 1 = Civil servant 2 = House wife 3 = Artisan 4 = Labourer/Cleaner 4 = Student 5 = Unemployed 6 = Artisan 7 = Trading 8 = Professional 9 = Others (specify)_____

8. How long have you been married? _____ (for married only)

9 **Type of marriage** 1 = Polygyny 2 = Monogamy

10. Number of children _____

11. Monthly income: 1 = Regular 2 = Irregular

SECTION B: KNOWLEDGE QUESTIONS ABOUT POSTPARTUM DEPRESSION

12. Do you know about Postpartum depression? 1= Yes 2= No
(**if No, Go to section C**)

13. What do you understand by postpartum depression _____
14. Which of the following statements about postpartum depression is FALSE?
1 = It is a medical disorder 2 = It is a weakness of character 3 = It is associated with child birth

15. How did you know about Postpartum depression (tick (√) all that apply)
1 = Radio 2 = Television 3 = Newspaper/Magazine
4 = Social group 5 = Health workers 6 = Family 7 = Peer /Friends
8 = Imam/Pastor 9 = Social media 10 = Others (specify)_____

16. Which of the following is true about the onset of postpartum depression?
1= It begins within the first 6 weeks of delivery 2 = It begins 2weeks following delivery 3 = During pregnancy

17. What factors may trigger the onset of postpartum depression? 1 = Hormonal changes
2 = Genetics 3 = Traumatic event 4= All of the above

18. The following are recognised signs & symptoms of Postpartum depression EXCEPT_____?
1 = Feeling of sadness
2 = Low or no energy
3 = Always happy
4 = Fear of care for the baby

19. Which of the following is NOT a symptom of postpartum depression?
1 = Lack of energy
2 = Changes in appetite
3 = Changes in pattern of sleep
4 = Good decision making

20. The following are the consequences associated with Postpartum depression EXCEPT?
1 = Associated risk to the babies
2 = Proper care of the baby
3 = Physical injury to the baby
4 = Physical injury to the mother

21. The following are the ways by which Postpartum depression should be managed EXCEPT?
1 = Seeking medical help
2 = Good social support from family &close friends
3 = Avoidance i.e shying away from the problem

22. All of the following are typical of patients suffering from from postpartum depression EXCEPT?_____
1= Negative thinking that can lead to self - defeating or suicidal behaviour
2= Mental fatigue and inability to take care of the baby
3= Marked forgetfulness
4= Normal memory

23 Which is NOT a common symptom of postpartum depression?
1 = Poor motivation
2= Normal energy
3= Guilty thoughts
4 = Fatigue

SECTION C: FACTORS ASSOCIATED WITH POST PARTUM DEPRESS

24 What is your age as at the birth of the last child _____

Psychosocial Factors

25. Did you experience any anxiety during the last pregnancy period? 1 = Yes 2 = No

26. Do you smoke? 1 = Yes 2 = No

27. Did you experience any adverse life event during the last pregnancy? 1 = Yes 2 = No

28. Did you experience any relationship difficulties with your in-laws during the last pregnancy? 1 = Yes 2 = No

29. Did you experience any relationship difficulties with your family of birth during the last pregnancy? 1=Yes 2= No

30. How would you describe your family support during the last pregnancy?
1= Enough 2 = Not enough

31. Did you get enough support from friends during the last pregnancy? 1 = Yes 2 = No

32. Did you plan the last pregnancy? 1 = Yes 2 =No (If Yes, skip Q30&31)

33. Did you ever consider terminating the pregnancy of the last child? 1 = Yes 2 = No

34. Did you ever attempt to terminate the pregnancy of the last child? 1 = Yes 2 = No

35. Did you receive any physical assistance during pregnancy of the last child? 1 = Yes 2 = No

36. Did you receive any physical assistance after birth of the last child? 1 = Yes 2 = No

37. Do you have a family history of depression? 1 = Yes 2 = No

38. Do you have a previous history of depression? 1 = Yes 2 = No

39. How would you describe your marital relationship? 1 = Good 2 = Fair 3 = Poor

40. Did you have a close friend that you could talk to about anything during your last pregnancy? 1 = Yes 2 = No

Obstetric Factors

40. Have you had a miscarriage before? 1 = Yes 2 = No (if No, skip question 35)

41. If Yes, how many? _____

42. What was your mode of delivery for the last child? 1=Normal Vaginal delivery 2 = Caesarean section 3 = Assisted delivery

43. Did you sustain any form of physical injury during labour/child birth of the last child? 1= Yes 2 = No

New-born Factors

44. What was your preference with respect to the last child's sex? 1 = Boy 2 = Girl 3 = No preference

45. Were you disappointed with the outcome of sex of the last child? 1 = Yes 2 = No

46. Was there any congenital malformation in the last child? 1 = Yes 2 = No

SECTION C: EDINBURGH POSTNATAL DEPRESSION SCALE (EPDS)

Please indicate appropriate as applied to you the following statements how you felt in the last seven days

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

1 = As much as I always could

2 = Not quite so much now

3 = Definitely, not so much now

4 = Not at all

48. Have you looked forward with enjoyment to things

1 = As much as I ever did

2 = Rather less than I used to

3 = Definitely, less than I used to

4 = Hardly at all

49. Have you blamed yourself unnecessarily when things went wrong

1 = Yes, most of the time

2 = Yes, some of the time

3 = Not, very often

4 = No, never

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

1 = No, not at all

2 = Hardly ever

3 = Yes, sometimes

4 = Yes, very often

51. Have you felt scared or panicky for no very good reason

1 = Yes, quite a lot

2 = Yes, sometimes

3 = No, not much

4 = No, not at all

52. Have Things been getting on top of you

1 = Yes, most of the time I haven't been able to cope at all

2 = Yes, sometimes I haven't been coping as well as usual

3 = No, most of the time I have coped quite well

4 = No, I have been coping as well as ever

53. Have you been so unhappy that you have had difficulty sleeping

1 = Yes, most of the time

2 = Yes, sometimes

3 = Not very often

4 = No, not at all

54. Have you felt sad or miserable

1 = Yes, most of the time

2 = Yes, sometimes

3 = Not very often

4 = No, not at all

55. Have you been so unhappy that you have been crying

1 = Yes, most of the time

2 = Yes, quite often

3 = Only occasionally

4 = No, never

56. Has the thought of harming yourself occured to you

1 = Yes, quite often

2 = Sometimes

3 = Hardly ever

4 = Never

(Instruction to Interviewer: Continue coping strategies questions with participants who scores 15 and above)

SECTION D: COPING STRATEGIES QUESTIONS (Brief COPE)

Each item says something about a way of coping, I want to know to what extent you have been doing what the item says. How much or how frequently. Don't answer based on whether it seems to be working or not-just whether you are doing it. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.

Please indicate by ticking (√) the number that represents your choice of response

1 = I haven't been doing this at all, 2 = I have been doing this a little bit, 3 = I have been doing this a medium amount, 4 = I have been doing this a lot

SN	Coping Mechanisms	1	2	3	4
57.	Have you been turning to work or other activities to take your mind off things				
58.	Have you been concentrating your efforts on doing something about the situation you are in				
59.	Have you been saying to yourself 'this is not real'				
60.	Have you been using alcohol or other drugs to make yourself feel better				
61.	Have you been getting emotional support from others				
62.	Have you been giving up trying to deal with it				
63.	Have you been taking actions to try to make the situation better				
64.	Have you been refusing to believe that it has happened				
65.	Have you been saying things to let your unpleasant feelings escape				
66.	Have you been getting help and advice from other people				
67.	Have you been using alcohol or other drugs to help you get through it				
68.	Have you been trying to see it in a different light, to make it seem more positive				
69.	Have you been criticizing yourself				
70.	Have you been trying to come up with a strategy about what to do				
71.	Have you been getting comfort and understanding from someone				
72.	Have you been giving up the attempt to cope				
73.	Have you been looking for something good in what is happening				
74.	Have you been making jokes about it				

75.	Have you been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, shopping				
76.	Have you been accepting the reality of the fact that it has happened				
77.	Have you been expressing your negative feelings				
78.	Have you been trying to find comfort in your religion or spiritual beliefs				
79.	Have you been trying to get advice or help from other people about what to do.				
80.	Have you been learning to live with it				
81.	Have you been thinking hard about what steps to take				
82.	Have you been blaming yourself for things that happened				
83.	Have you been praying or meditating				
84	Have you been making fun of the situation				

THANK YOU FOR YOUR TIME

APPENDIX II

ILANA IWE-IBEERE

ITAKANLẸ ATI SISETO FUN IFARADA LORI IRẸWẸSI LẸYIN IBIMỌ LARIN AWỌN IYA ỌMỌ TI ỌDUN ORI WỌN KO TO MARUN NI AGBEGBE IJỌBA IBILẸ IBADAN NORTH-EAST IBADAN.

Ẹyin Olùkópa wa Owọn,

Mo jẹ akẹ́ẹ́kọ́ làtí ile ìwé giga Yunifàsitì tí Ilẹ Ibádán ni ẹka tí àtí n risi eto nípa idanilẹkọọ ati igbega eto ilera, ti o wan i Kolẹẹji tí ati n se itọju pélu oogun, Ni abala Tí ohun risi eto ilera àwọn ara ilu, Mo nse iwadi loriitakanlẹ ati siseto fun ifarada lori irẹwẹsi okan lẹyin ibimọ larin awọn iya ọmọ ti ọdun ori won ko to okan ni agbegbe ijoba ibile ibadan north-east ni ilu Ibadan, ni orilede Naijiriya. Kikopa nínúu iwadi yìí jẹ tí eyi ti oti okan yin wa, ati fi ohunka idanimọ si ara awọn iwe ibeere kookan lati dabobo idanimọ yin. Gbogbo àlàyé tí ẹba si se fún mi ninu iwadi yi ni yìí o wa ni ipamọ larin emi àtí ẹyiín, mi ko sini se afihan rẹ fún ẹnikẹni.

Kikopa yin ninu iwadi yii ṣe pataki pupọ nitoriwipe yi o ṣe iranlọwọ fun oluwadi lati mọ iriri awọn iya ọmọde nipa irẹwẹsi lẹyin ibimọ ati biwọn se hun se ifarada rẹ. Ẹ jọwọ ẹni lati ṣe akiyesi wipe ko si idahun ti o tọ tabi eyi ti kotọ ninu gbogbo idahun eyikeyi ti ẹba fi esi si awọn ibeere ti a ba bi yin. Didahun si awọn ibeere yi ko ni gbayin ni akoko pupọ, nitoriwipe ko ni gbayin ju ogun tabi ogbọn iseju lọ. Ki a to maa tẹ siwaju, o tunmọ siwipe ẹ ti fi aramọ lati kopa ninu iwadi yi pelu gbigba lati kopa ninu ifọrọwanilẹnuwo.

A dupẹ lọwọ yin fun ifọwọsowọpọ yin.

Ohunka Idanimọ_____

Ẹ jowo, ẹ se àlàyé tí o ba péye, ti o si je otitọ fún mi lori awọn ibeere wọn yi - eleyi se pataki pupọ.

IPIN (ALÀKỌKỌ́): (ÀLÀYÉ LORI ETO IGBESIAYE OLÙKÓPA)

Ilana: E jowọ ẹ fi idahun si awọn ibeere wọn yii pẹlu fi fi ila tabi kikọ esi ti o yẹ si awọn alafo ti a pese.

1. Ọmọ ọdún melo ni ẹ jẹ ni igba tie se ọjọ ibi yin kẹhin (ni ọdun)? _____

2. Kíni ipo igbeyawo yiín? (1) Mi o tí fe oko (2) Mo tí ni oko (3) Mo tí fi oko mi sile (4) Mo tí ko oko mi sile (5) Oko mi tí ku

3. Kíni ẹsin tí en sin? (1) Kristíani (2) Musulumi (3) Elesin Ibile (4) Elesin miran: (ẹ dárúkọ ẹ ni pàtó) _____

4. Kíni Eya tí ẹ tíwa? (1) Yoruba (2) Igbo (3) Hausa (4) Eya miran: (ẹ dárúkọ ẹ ni pàtó) _____

5. Kíni ipéle tí ẹ ka ìwé de? 1= Mi o ka iwe Kankan rara 2 = ile ìwé alakobere 3 = Ile ìwé girama 4 = Ile ẹkosẹ 5= Ile iwe giga agba; 1 =NCE 2= OND 3 = HND 4 = Yunifasiti

6. Kíni ipéle tí ọkọ yin ka ìwé de? 1= Oko mi o ka iwe Kankan rara 2 = ile ìwé alakobere 3 = Ile ìwé girama 4 = Ile ẹkosẹ 5= Ile iwe giga agba; 1 =NCE 2= OND 3 = HND 4 = Yunifasiti

7. Kini iṣẹ-iṣẹ yin: 1 = Iṣẹ ijọba 2 = Iyawo ile 3 = Onisẹ ọwọ 4 = Osisẹ ile kikọ / Anulẹ/Afọlẹ

4 = Akẹkọọ 5 = Alainisẹ 6 = Onisẹ ọwọ 7 = Onișowo 8 = Ọjọgbọn Osisẹ9 = Isẹ miiran: (ẹ dárúkọ ẹ ni pàtó) _____

8. O ti to odun melo ti ẹ ti se igbeyawo? _____ (fun awọn to ti se igbeyawo nikan)

9. Iyawo melo ni ọkọ yin fẹ? 1 = Iyawo pupọ 2 = Iyawo kan

10. Ọmọ melo lebi? _____

11. Bawo ni owo osu yin sen wọle si? 1 = O n wọle deede 2 = Ko wọle deedes

IPIN (ELEEKEJI): IBEERE LORI ÌMÒ NÍPA IREWẸSI OKAN LẸYIN IBIMỌ (KNOWLEDGE QUESTIONS ABOUT POSTPARTUM DEPRESSION)

12. Njẹ ẹ mọ nipa irẹwẹsi okan lẹyin ibimọ? 1 = Bẹẹni 2 = Bẹẹkọ

(To ba jẹ bẹẹkọ, ẹ fo fẹrẹ lọ si ipin eleeketa)

13. Kini alaye ti ẹ le se nipa irẹwẹsi lẹyin ibimọ _____

14. Ewo ninu awọn gbolohun wọnyi nipa irẹwẹsi lẹyin ibimọ lo jẹ irọ?

1 = O jẹ ailera kan 2 = O jẹ ailera ti iwa 3 = O ni nkan ṣe pẹlu ibimọ

15. Bawo ni o ṣe mọ nipa irẹwẹsi lẹyin ibimọ (fi ami si (√) gbogbo awọn ti o yẹ)

1 = Redio 2 = Telifisonu 3 = Iwe irohin 4 = Awujọ egbẹ 5 = Awọn onisẹ eto ilera 6 = Awọn ẹbi 7 = AwọnỌrẹ / Ojulumọ 8 = Lemọọmu / Olushọ Aguntan 9 = Ori ero ayelujara 10 = Awọn ọna miran (ẹ dárúkọ ẹ ni pàtó) _____

16. Ewo ninu awọn gbolohun wọnyi lo n se afihan ti irẹwẹsi lẹyin ibimọ ba fe bẹẹrẹ?

1 = O ma n bẹrẹ laarin ọsẹ kẹfa akọkọ leyin ibimọ 2 = O ma n bẹrẹ larin osẹ keji lẹyin ibimọ 3 = O ma n bẹrẹ ninu oyun

17. Awọn nkan wo lo le ṣe okunfa ki irẹwẹsi lẹyin ibimọ bẹrẹ? 1 = Abuda ara 2 = Ajẹbi 3 = Iṣẹlẹ to n banilokanje 4 = Gbogbo awọn idi ti a ti darukọ loke

18. Awọn wọnyi ni awọn aami ati afojusun-aisan lori irẹwẹsi lẹyin ibimọ ti o foju han ayafi _____?

1 = Wiwa ni ipo ibanuje

2 = Aito agbara tabi aisi agbara

3 = Wiwa ni ipo Idunnu nigbagbogbo

4 = Iberu lori sise itọju fun ọmọ

19. Ewo ninu awọn wọnyi ni ko kin se aamin irẹwẹsi lẹyin ibimọ?

1 = Aini agbara

2 = Ayipada lori onfa ohunje

3 = Ayipada lori bi ase n sun si

4 = Ṣiṣe ipinnu daradara

20. Awọn wọnyi ni awọn ewu ti o wa ninu ki eniyan ni irẹwẹsi lẹyin ibimọ ayafi??

1 = Ewu ti o wa lori awọn ọmọde

2 = Sise itọju to peye fun ọmọde

3 = Fifa ipalara fun awọn ọmọde

4 = Fifa ipalara fun awọn iya ọmọ

21. Awọn wọnyi ni awọn ọna ti a le gba lati ṣe itoju irẹwẹsi lẹyin ibimọ?

1 = Wiwa iranlọwọ lori itọju ati iwosan

2 = Riri itọju ati atileyin lawujọ awọn ọrẹ, lọdọ awọn ebi, alabagbe ati ojulumọ

3 = Yiyera ati sise amojukuro nibi isoro lori irẹwẹsi lẹyin ibimọ

22. Gbogbo awọn wọnyi ni a le fi se idanimo irufẹ awọn eniyan ti o ba ni irẹwẹsi lẹyin ibimọ ayafi?

1 = Ero buburu ti o le ja si iwa ipalara tabi siseku pa ara ẹni

2 = Irewesi okan ati ọpọlọ ti o lese idena fun itọju ọmọ ti o peye

3 = Igbagbe nkan ni ọpọ igba

4 = Riranti nkan ni akoko

23. Ewo ninu awọn ohunti akọ wọn yi ni ko kin se apẹẹre irẹwẹsi lẹyin ibimọ?

1 = Aini iwuri lati se nkan

2 = Nini agbara to peye lati se nkan

3 = Dida ara ẹni lebi lori awọn ero ọkan ẹni

4 = Ki ko aarẹ

IPIN (ẸLẸẸKẸTA): AWỌN OKUNFA TO RỌ MỌ IRẸWẸSI LẸYIN IBIMỌ

Awọn Okunfa ti o ni sise pelu ihuwasi ati eto igbesi aye larin awọn ọmọ eniyan

24. Nje ẹ ni iriri lori eru biba lakoko oyun ti e ti ni seyin? 1 = Bẹẹni 2 = Bẹẹkọ

25. Nje ẹ n mu siga? 1 = Bẹẹni 2 = Bẹẹkọ

26. Nje ẹ ni iriri isele ti o buru lakoko oyun ti ẹ ti ni seyin ? 1 = Bẹẹni 2 = Bẹẹkọ

27. Nje ẹ ni iriri kankan lori isoro ti o ma n waye nibi ibasepọ pelu awọn anaa tabi ara ile ọkọ lakoko oyun ti ẹ ti ni seyin? 1 = Bẹẹni 2 = Bẹẹkọ

28. Nje ẹ ni iriri kankan lori isoro ti o ma n waye nibi ibasepọ pelu awọn ebi tit i yin gangan lakoko oyun ti ẹ ti ni seyin? 1 = Bẹẹni 2 = Bẹẹkọ

29. Bawo ni ẹ se le se apejuwe iru itoju ati iranlọwọ ti awọn ẹbi yin se fun yin lakoko oyun ti ẹ ti ni seyin? 1 = O to 2 = Ko to

30. Nje ẹ gba iranlọwọ ti o dara lati ọdọ awọn ọrẹ lakoko oyun ti ẹ ti ni seyin? 1 = Bẹẹni 2 = Bẹẹkọ

31. Nje e gbero lati ni oyun lakoko oyun ti ẹ ti ni seyin? 1 = Bẹẹni 2 = Bẹẹkọ (Ti esi yin ba je Bẹẹni, ẹ fo ibeere meji to tele ibeere)

32. Nje ẹ ti gbero lati ba oyun ọmọ eleyi ti ẹni lakoko oyun ti ẹ ti ni seyin? 1 = Bẹẹni 2 = Bẹẹkọ

33. Nje ẹ gbiyanju lati ba oyun ọmọ eleyi ti eni lakoko oyun ti ẹ ti ni seyin? 1 = Bẹẹni 2 = Bẹẹkọ

34. Nje ẹ ri iranlọwọ Kankan gba lati ọdọ enikẹni lakoko oyun ti ẹ ti ni seyin? 1 = Bẹẹni 2 = Bẹẹkọ

35. Nje ẹ ri iranlọwọ Kankan gba lati ọdọ enikẹni leyin ti ẹ bi ọmọ eyi ti e bi seyin? 1 = Bẹẹni 2 = Bẹẹkọ

36. Nje ẹnikẹni ti ni arun irẹwẹsi ọkan ninu idile yin ri? 1 = Bẹẹni 2 = Bẹẹkọ

37. Nje eyin gagan ti fi igba kan ri ni arun irẹwẹsi ? 1 = Bẹẹni 2 = Bẹẹkọ

38. Bawo ni ẹ se le ṣalaye ibasepọ larin ẹyin ati ọkọ yin ninu igbeyawo yin? 1 = O dara 2 = O dara dię 3 = Ko dara

39. Nje ẹ ni ọrẹ timọtimọ ti ẹ le ba sọrọ nipa ohunkohun lakoko oyun ti ẹ ti ni seyin? 1 = Bẹẹni 2 = Bẹẹkọ

Awọn Okunfa to niise pelu itọju alaboyun

40. Njẹ oyun ti bajẹ lara yin ri? 1 = Bẹẹni 2 = Bẹẹkọ (ti idahun yin si ibeere yi bajẹ bẹẹkọ, ẹ fi ibeere ti o tẹle eleyi silẹ)

41. Ti o ba jẹ pe bẹẹni, ẹ melo ni oyun ti bajẹ lara yin? _____

42. Bawo ni e se bi ọmọ eleyi tie bi seyin ni ile igbẹbi? 1 = Mo bi fun ra ara mi lati oju ara 2 = wọn fi isẹ abẹ gbe jade kuro ninu mi 3 = Wọn se iranlọwọ fun mi lakoko irọbi

43. Njẹ e ni apa tabi se iselese Kankan lakoko ti en rọbi lọwo nigba ti ẹ fẹ bi ọmọ ti ẹbi seyin? 1 = Bẹẹni 2 = Bẹẹkọ

Awọn Okunfa ti o niise pelu wiwa aye ọmọ tuntun

44. Se ọmọ okunrin ni tabi obinrin lo wu yin nigba ti ẹni oyun ọmọ ti ẹbi keyin tabi ko si iyato? 1 = Ọmọkunrin 2 = Ọdọmọbìnrin 3 = Ko si iyasọtọ

45. Njẹ ẹ ni ijakulẹ pẹlu abajade lori ọmọ ti ẹ bi kẹhin? 1 = Bẹẹni 2 = Bẹẹkọ

46. Njẹ ari ninu ẹya ara ọmọ yin ti ẹ bi seyin ti ko se daadaa? 1 = Bẹẹni 2 = Bẹẹkọ

IPIN (ẸLEEKẸRIN): IBEERE NINUEdinburgh Postnatal Depression Scale (EPDS)

Leyin ti e ti bimo bayi, a fe mo bi ilera yin se wa. Nitorina, maa beere awon ibere ti o da lori ilera yin ni nkan bi ojo meje seyin. Fun ibeere kookan ma fun yin ni awon ona melo kan ti e le fi idahun. E jowo e so idahun ti o sun mo bi e se wa ni nkan bi ojo meje sehin, ki se ni oni ni a nso. **E JOWO E FUN WA NI IDAHUN TI O SALAYE BI E SE WA NI NKAN BI OJO MEJE SEYIN.**

E je ki n fun yin ni apeere: TI MO BA SO WIPE "INU YIN N DUN" AWON IDAHUN TI E LE MU NI

Beeni, ni gbogbo igba
Beeni lopolopo igba
Osowon
Rara ko ri bee
"TI E BA MU BEENI, "NI OPOLOPO IGBA EYI TUNMO SIPE INU YIN DUN NI GBOGBO IGBA NI OSE TI O KOJA"

NI BAYI, E JOWO E MU IDAHUN TI O SO BI E SE WA NI BI OJO MEJE SEYIN, KI SE NI ONI NIKAN NI A NSO.

Lati bi ojo meje seyin

1. Nje e ro wipe eniti o wa ninu aworan yi ti n le e rerin lori awọn ohun ti o sele l'ayika re?

   Gege bi mo se fe ……..…0

   on l to bee nisisiyi …….. 1

   Dajudaju kopo to bee bayi ……..2

   Ko ri bee rara ……..3

2. Nje e ro wipe eniti e n wo yii ti n fi idunu fi oju s'ona si nkan?

   Gege bi mo ti ma nse ……0

   Ko ri be ti igba kan ……1

   Dajudaju o din ku si ti igba kan ……2

   Ko ri bee rara ……..3

3. Nje e ro wipe eniti e n wo yii ti n da ara re lebi lainidi nigba ti nkan dojuru?

   Beni lopolopo igba ……3

   Beeni lawon igba kan ……2

   Kiise nigba gbogbo ……1

   Rara ……0

4. Njee ro wipe eni ti e n wo yii ti n daamu tabi ni aifokanbale lainidi pataki?

   Rara ko ri bee ……..…0

   O sowon ……..…1

   Beeni leekokan ……...2

   Beeni lopolopo igba ……...3

5. Nje e ro wipe eniti e wo yii ti nberu tabi ni ijaya lai si idi pataki?

   Beeni lopolopo igba ……..3

   Beeni leekokan ……..2

   O so won ……1

   Rara ……0

6. .Nje e ro wipe eniti e n wo yii ni orisirisi nkan ti o paa yin l'aya?

   Beeni lopolopo igba n ko le koju nkan ……..3

   Beeni leekokan n ko le koju nkan bi ti teletele ……..2

   Rara lopolopo igba ni mo ti koju nkan daadaa ……..1

Rara on le koju nkan daadaa bi ti tele ……..…..0

7. Nje e ro wipe eniti e n wo yin ni aidunni to po to bee ti ko le e ri orun sun?

   Beeni ni gbogbo igba ……..3

   Beeni leekokan ……2

   Kii se ni gbogbo igba ……..1

   Rara ……0

8. Nje e ro wipe eniti e nwo yii ti ni aidunnu okan, tabi irewesi okan

   Beeni ni gbogbo igba ……..3

   Beeni lopolopo igba ……....2

   Kii se ni gbogbo igba ……..1

   Rara ko ri bee ……..0

9. Nje e ro wipe eniti e nwo yii ti ni aidunnu okan to be ti o n sukun?

   Beeni nigbogbo igba ……...3

   Beeni lopolopo igba ……2

   Leekokan ……1

   Rara ……0

10. Nje e ro wipe eniti e n wo yii ngba ero ati se ara yin lese ti wa si yin lokan?

    Beeni lopolopo igba ……3

    Leekokan ……2

    O sowon ……..1

    Rara ……0

ONKA EPDS

Gbogbo oonka _____

Oonka ti o je mewa tabi ju belo ……O ni irewesi okan

Oonka 1 – 9 ……Ko ni irewesi okan

IPIN (ELEKAARUN) IBEERE NIPA IFARADA

Ikọọkan ninu awọn gbolohun ti akọ silẹ yi n se alaye lori ọna ti alegba se Ifarada, mo fẹ ki ẹ se alaye lori ẹyikeyi ti oba jọ ọna ti ẹ ti lo lati se ifarada nipa irẹwẹsi lẹyin ibimọ. Bawo ni ẹ se n loo awọn ona wọnyi sii? Ejowọ ẹ ma se dahun lori bi awọn ona wọn yi se isẹ tabi ko sisẹ, dipo bẹẹ, ẹ dahun lori bi ẹ se n lo wọn .ẹ lo awọn aṣayan idahun wọnyi lati fi dahun awọn ibeere ti o wa ni isalẹ. Ẹgbiyanju lati ṣe oṣuwọn awọn idahun yii ni ọkọọkan ninu ọkan

yin ki ẹ si yawọn si ọtọọtọ. Ẹ dahun awọn ibeere wọn yi bi ose tọọ ati bi o se yẹ bi e ba se lagbara si.

Ẹ jowo ẹ tọkasi eyikeyi ti oba teyin lọrun ninu awọn idahun wọn yi pẹlu fi fa ila (√) si iwaju ohunka rẹ.

1 = Emi ko ṣe eleyi rara, 2 = Mo ti ṣe eleyi ni iwọnba ranpẹ, 3 = Mo ti ṣe eleyi ni igba ti o pọ die tabi alabọde , 4 = Mo ti ṣe eleyi ni ọpọlọpọ igba

Ohunka (S/N)	**Awọn ọna ti an gba se ifarada (Coping Mechanisms)**	**1**	**2**	**3**	**4**
47.	Njẹ ẹ ti kọju mọ iṣẹ sise tabi awọn ohun miiran lati mu okan yin kuro lori awọn iṣẹlẹ to sẹlẹ?				
48.	Njẹ ẹ ti n sapa ati akitiyan lati wa nkan se si ipo ti ẹ wa yi?				
49.	Njẹ ẹ ti da ara yin lọkan le pelu sisọ ninu ọkan yi wipe “ipo ti mo wa yi ko bojumu to”?				
50.	Njẹ ẹ n fi ọti lile tabi awọn oogun miran lati fi paronu rẹ ati lati fi mu inu dun?				
51.	Njẹ ẹ ri atilẹyin gba lati ọdọ ẹnikẹni?				
52.	Njẹ ẹ ti soreti nu nibi gbiyanju lati yanju awọn iselẹ ti o sẹlẹ?				
53.	Njẹ ẹ ti n gbe awọn igbẹsẹ ti o le mu ki nkan bọọ sipo to daa?				
54.	Njẹ ẹ ti ẹ ti n gbiyanju lati kọ ati lati ma gbagbọ wipe iṣẹlẹ naa ti ẹ sẹlẹ?				
55.	Njẹ ẹ n sọ awọn ọrọ itunnu si ara yin lati fi danuu ara yin dun?				
56.	Njẹ ẹ ti n ri iranlọwọ ati imoran gba lati ọdọ awọn eniyan miiran?				
57.	Njẹ ẹ n fi ọti lile tabi awọn oogun miran gbe isoro kuro lara?				
58.	Njẹ ẹ ti gbiyanju lati woye lori iṣẹlẹ yi ni ona to dara?				
59.	Njẹ ẹ ti ẹ ti n da ara yin lẹbi lori iṣẹlẹ yii?				
60.	Njẹ ẹ ti ẹ ti gbiyanju lati wa ona kan gboogi lori ohun ti ẹ le ṣe si iṣẹlẹ to sẹlẹ?				
61.	Njẹ ẹ ni enikan ti ohun dun yin ninu ati ti ohun ba yin kẹdun?				
62.	Njẹ ẹ ti mu ọkan kuro lori fifarada ipo ti ẹ wa?				
63.	Njẹ ẹ ti woye wipe ire wa ninu ibi, ibi wa ninu ire lori iru iṣẹlẹ to sẹlẹ yi?				
64.	Njẹ ẹ ti fi ọrọ yi se awada leyin ti iselẹ yi ti sẹlẹ?				
65.	Njẹ ẹ ti se awọn ere kọọkan lati fi paronu rẹ lori iṣẹlẹ yi, awọn bii ki ẹ lo wo ere ori itage, wiwo erọ amohunmaworan, bii lilọ si sinima, rironu nkan to dara, orun sisun, rira ọja fun igbadun?				
66.	Njẹ ẹ ti gba kadar lori iṣẹlẹ to sẹlẹ?				
67.	Njẹ ẹ ti se afihan awọn ẹdun okan yin?				
68.	Njẹ ẹ ti gbiyanju lati wa itunu nipa sisun mọ olorun lati ibi ijọsin ninu				

	ẹsin yin?				
69.	Njẹ ẹ ti gbiyanju lati gba imọran tabi iranlọwọ lọwọ awọn eniyan miiran nipa ohun ti ẹ le ṣe lori ọrọ yii?				
70.	Njẹ ẹ ti gba lati tẹ siwaju pẹlu gbigbe igbe aye alaafia pelu iṣẹlẹ to ṣẹlẹ?				
71.	Njẹ ẹ ti n ronu gidigidi nipa awọn igbesẹ ti o yẹ lati gbe?				
72.	Njẹ ẹ ti da ara yin lẹbi lori awọn ohun ti o ṣẹlẹ?				
73.	Njẹ ẹ ti ngbadura tabi ṣe àṣàrò lori iṣẹlẹ ti o ṣẹlẹ?				
74.	Njẹ ẹ ti gbiyanju lati fi ọrọ yi rẹẹrin?				

Ese adupẹ fun akoko yin ti e fun wa

APPENDIX III

ETHICAL APPROVAL LETTER

TELEGRAMS..... TELEPHONE.....

MINISTRY OF HEALTH
DEPARTMENT OF PLANNING, RESEARCH & STATISTICS DIVISION
PRIVATE MAIL BAG NO. 5027, OYO STATE OF NIGERIA

Your Ref. No. .....
All communications should be addressed to
the Honorable Commissioner quoting
Our Ref. No. AD 13/479/1285

14th May, 2019

The Principal Investigator,
Department of Health Promotion and Education,
Faculty of Public Health,
College of Medicine,
University of Ibadan,
Ibadan.

Attention: Adelodun Aminat

ETHICS APPROVAL FOR THE IMPLEMENTATION
OF YOUR RESEARCH PROPOSAL IN OYO STATE

This is to acknowledge that your Research Proposal titled: "Prevalence and Coping Mechanisms of Postpartum Depression among Mothers of Infants in Ibadan North-East Local Government Area, Ibadan, Oyo State, Nigeria" has been reviewed by the Oyo State Ethics Review Committee.

2. The committee has noted your compliance. In the light of this, I am pleased to convey to you the full approval by the committee for the implementation of the Research Proposal in Oyo State, Nigeria.

3. Please note that the National Code for Health Research Ethics requires you to comply with all institutional guidelines, rules and regulations, in line with this, the Committee will monitor closely and follow up the implementation of the research study. However, the Ministry of Health would like to have a copy of the results and conclusions of findings as this will help in policy making in the health sector.

4. Wishing you all the best.

Dr. Abbas Gbolahan
Director, Planning, Research & Statistics
Secretary, Oyo State, Research Ethics Review Committee