PSYCHOLOGICAL PREDICTORS OF HEALTH-RELATED QUALITY OF LIFE AND THE EFFICACY OF PSYCHOEDUCATION AMONG PRIMIGRAVIDAS IN IBADAN, NIGERIA
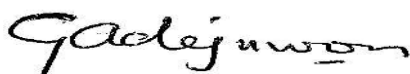
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BEING A THESIS SUBMITTED TO THE DEPARTMENT OF PSYCHOLOGY, FACULTY OF THE SOCIAL SCIENCES, UNIVERSITY OF IBADAN IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DOCTOR OF PHILOSOPHY DEGREE (Ph.D)

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CERTIFICATION

I certify that this work on "Psychological Predictors of Health-related Quality of Life and the efficacy of Psychoeducation among Primigravidas in Ibadan, Nigeria" was carried out by OLUTOLA, Funmilola Bosede **(Matric No: 194890)** in the Department of Psychology, Faculty of the Social Sciences, University of Ibadan.

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DEDICATION

This research work is devoted to the Almighty and Everlasting God, Ancient of Days, I am that I am, the Lord the can do all things and the Father of my Lord and Saviour Jesus Christ who has enabled me to complete this programme successfully against all odds. May His name be glorified forever and ever in Jesus' mighty name.

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To those who contributed but whose names were not mentioned here, I am very grateful.

Once again, I thank God Almighty, the lifter of my head, praise the Lord. Halleluyah.

ABSTRACT

Health-related Quality of Life (HRQoL) of primigravidas is linked to maternal mortality. Nigeria ranks high among the countries with high maternal mortality rate. Previous studies in Nigeria have largely focused on the influence of anxiety on HRQoL. However, little empirical attention has been given to the specific role of psychological factors (health-care seeking behaviour−HCSB, sleep quality, pregnancy-specific stress and coping styles) on HRQoL among primigravidas. This study therefore, investigated psychological factors (HCSB, sleep quality components, pregnancy-specific stress and coping styles domains) predicting HRQoL (psychological, physical health, social relationships and environment) and the efficacy of psychoeducation to improve HRQoL among primigravidas in Ibadan, Nigeria.

The Health Belief Model and HRQoL Theory guided the study. A mixed methods design consisting cross-sectional survey and pretest-posttest experimental group were adopted. The first phase conducted at Jericho Nursing Home, Ibadan involved two focus group discussions, eight in-depth interviews with primigravidas, and three key informant interviews with health professionals guided development of a Pregnant Women Health-care Seeking Behaviour (PWHSB) Scale. In the second phase, two tertiary hospitals, four basic health centres were purposively selected, while three state hospitals were randomly selected. Seven hundred and sixty-eight primigravidas were purposively selected from antenatal care clinic in nine public hospitals in Ibadan. The participants completed a 119-item questionnaire comprising demographic variables, World Health Organization Quality of Life (WHOQL-BREF) Scale (α=0.89), Pregnant Women Health-care Seeking Behaviour Scale (α=0.99), Pittsburgh Sleep Quality Index (α=0.85), Revised Prenatal Distress Questionnaire (α=0.87) and Revised Prenatal Coping Inventory (α=0.91). A six weeks intervention study was conducted in the third phase among 30 primigravidas who scored below 50% on WHOQL-BREF screening test. The participants were randomly assigned to Psychoeducation for Primigravidas −PEP (15) and control (15) groups. Qualitative data were content-analysed, while quantitative data were analysed using stepwise Multiple regression, ANOVA, and t-test at $p<0.05$.

The participants' age was 26.82±6.08 years. The HCSB, sleep quality, pregnancy-specific stress and coping styles emerged as overarching theme. The HCSB, sleep quality components, pregnancy-specific stress and coping styles domains jointly predicted HRQoL (R^2=0.11; $F_{(4;694)}$=21.34). The HCSB (β=0.21), sleep disturbance (β=0.08), daytime dysfunction (β=-0.08), pregnancy-specific stress (β=-0.11) and positive/spiritual coping (β=0.22) independently predicted HRQoL. The age groups ($F_{(5;762)}$=2.64), educational qualification ($F_{(4;762)}$=7.04) and marital status ($F_{(3;763)}$=3.59) significantly differentiated HRQoL of primigravidas, while pregnancy trimesters did not. There was a significant difference in HRQoL in PEP ($\bar{x}$=264.93) compared to those in the control ($\bar{x}$=219.60) groups ($t_{(28)}$=2.18). The HRQoL domains of physical health ($t_{(28)}$=7.41), psychological ($t_{(28)}$=6.48), social relationships ($t_{(28)}$=6.13), and environment ($t_{(28)}$=7.34) were significantly improved by PEP after intervention.

Health-care seeking behaviour, sleep quality, pregnancy-specific stress, and coping styles influenced health-related quality of life while psychoeducation provided an evidence-based strategy for improving health-related quality of life among primigravidas in Ibadan, Nigeria. Health professionals could adopt Psychoeducation for Primigravidas for use among primigravidas with low health-related quality of life.

Keywords: Health-related quality of life, Primigravidas in Ibadan, Psychoeducation efficacy, Health-care seeking behaviour

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CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

Health-related quality of life (HRQoL) is specific to health and deals with an individual's current state of health related to well-being (Mousavi, Mortazari, Chaman & Khosravi, 2013). According to the World Health Organisation (WHO) 2000, health exceeds the presence or absence of ailment or sickness, but it includes an absolute condition of having physical, mental and social wellness. Besides, health can be viewed as a condition wherein an individual can perform adequately mentally, physically, socially as well as spiritually to convey the fullness of one's unique capabilities in one's environment (The Free Dictionary, 2018). Thus, the state of one's health will determine one's HRQoL.

WHO defined quality of life (QoL) as the way individuals perceive their place in life based on the society's value and cultural systems and as it relates to their concerns, expectations, standards and goals (WHO, 1998). This means that QoL not only relates to individuals' health status but also to life in general. QoL can also be referred to as having a good life which also means living a life of high quality (Ventegodt, 2003). Moreover, the recent increase in studies on QoL has made it a theme highlighted in today society (Casarin, Barboza & Siquira, 2010). QoL is a multifaceted construct that is based on several objective and subjective factors. Objective factors relate to the quality of the environment and living condition. Subjective quality of life deals with the perception of wellness, including assessment of an individual's status in life based on an individual's experience. Subjective quality of life examines the QoL experienced by an individual, which is mostly identified by utilizing quantitative procedures such as scales and questionnaires (Olapegba, 2009).

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HRQoL is quality of life assessed in the context of health, which distinguishes it from other aspects of QoL. HRQoL has been conceptualized in many ways by different authors. For instance, Fryback (2010) viewed HRQoL as a complex concept that entails mental, physical as well as social health aspects. While researchers like Nilsson-Wikmar (2004) defined HRQoL as a wide concept that includes both favourable and unfavourable aspects of physical, psychological, social functioning as well as well-being. Olapegba, Balogun and De Paul Chism (2012) also agree that HRQoL is a function of the aggregate of various aspects of a person's life and experiences; but they believe that the different domains may, however, differ in their strength of contribution to the perception of quality of life. Carr, Higginson and Robinson (2003) also described HRQoL as a comprehensive construct that is influenced in diverse dimensions by the individual's psychological state, visible health, independence state, and social interactions including their connections to important characteristics of their community. HRQoL examines the influence of the state of health on QoL (Healthy People 2020, 2014). However, HRQoL in this study will be viewed from the perspective of physical health, psychological, social relationships and environment domains. HRQoL is an important factor during pregnancy.

Pregnancy and childbirth are periods of great joy and interesting events in women's lives. Pregnancy is the duration during which offspring develop in the womb of a woman (Wylie, 2005). It is essential for women to have healthy pregnancies, which will result in healthy children. The World Health Organization (2000) identified pregnancy as the most vital stage of every woman's life, and it is also a progressive process wherein the risk status of a woman may change at anytime. Moreover, there are different categories of pregnant women, which are nulligravidas, primigravidas, secundigravidas, and multigravidas. Furthermore, gravida refers to pregnancy, while primigravida can be described as a woman who is carrying her first pregnancy. In other words, from the period when the first pregnancy is confirmed in a woman till the time the second pregnancy is confirmed, she is identified as a primigravida (or gravida 1). The focus of this study is on primigravida because they are having a fresh experience of pregnancy which may trigger some psychological reactions that may impair their HRQoL. A woman carrying her first pregnancy after she turns thirty-five years old is called an elderly primigravida (Ahmadi,

Montazeri, Mozafari, Azari, Nateghi & Ashrafi, 2014; Danish, Fawad & Abbasi, 2010). Pregnancy (mostly the first one) involves various adjustments that include physiological, occupational, financial, and other areas. The required adjustment during pregnancy may evoke psychological, social, and behavioural distress for women, especially those with a poor quality of life (Ritter, Hobfoll, Lavin, Cameron & Hulsizer, 2000). Primigravidas can be anxious concerning the health of their fetus, imminent child delivery including impending obligations as mothers (Lobel, Hamilton & Cannella, 2008). However, issues regarding maternal health have become global issues requiring urgent empirical attention.

One of the targets under the third goal of the Sustainable Development Goal is to reduce the global maternal mortality rate to below 70 per 100 000 deliveries, with the expectation that no nation will have a maternal death rate that is two times the average global ratio (WHO, 2020b). From 1990 to 2013, the global maternal mortality ratio fell by 45 percent, falling from 388 maternal deaths per 100,000 live births to 210. Despite this improvement, reports show that hundreds of pregnant women die daily from pregnancy or delivery-associated issues (United Nations, 2014; WHO, 2014). It was reported in 2013 that the majority of this mortality was in the developing nations, where the maternal death rate is approximately fourteen times greater than the developed nations. Globally, there were records of 289,000 maternal mortalities in 2013, which is equivalent to about 800 pregnant women dying daily. It is critical to note that maternal deaths are concentrated in Sub-Saharan Africa (where Nigeria is located) and Southern Asia, which together reported 86% of such deaths worldwide in 2013 (United Nations, 2014; United Nations Population Fund & WHO, 2014).

Specifically, Obasi (2016) observed that forty thousand Nigerian women lose their lives yearly during child delivery and five hundred and seventy-six mortalities were reported for every one hundred thousand daily live births. This situation could be linked to poor HRQoL and primigravidas may form a larger percentage of this group due to their inexperience regarding the management of pregnancy challenges. Moreover, the influence of psychological variables on primigravidas' HRQoL cannot be overemphasized. Some

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empirical studies have reported a remarkable increase in psychological symptoms during pregnancy (Manber, Blasey & Allen, 2008).

One of the variables that can affect the HRQoL of primigravidas is their health-care seeking behaviour. Health-care seeking behaviour can be referred to as actual steps taken to uphold health or treat health issues, as well as health behaviour during pregnancy and dependence on health care resourses that exist in a community's health institution or referral for treatment beyond the community (Grover, Kumar & Jindal, 2006). Literature reveals that health-care seeking behaviour can be described with data collected from information on reasons for the choice of health care provider. Moreover, pregnant women are exposed to different health issues which, if not properly addressed, can result in maternal illness or unfavourable pregnancy results like the death of the fetus or mother or both (Ezeama & Ezeamah, 2015). This condition may also lead to poor HRQoL. Hence, pregnant women are supposed to register for antenatal care (ANC) in order to manage their mental, physical, emotional, and social health in the course of pregnancy as well as for immediate medical care of illnesses that can lead to the death of the mother and baby (Oyinlola, Sunmola, Opayemi & Mayungbo, 2018).

Antenatal care is an interactive programme between pregnant women and medical experts like midwives nurses, including doctors (Atekyereza & Mubiru, 2014). Pregnant women may access health-care services for regular prenatal care, for childbirth, for medical care, or for distress conditions. An antenatal programme is important for a healthy pregnancy as well as delivery (Adjiwanou & LeGrand, 2013). Although the constituents of ANC were observed to enhance the outcomes of pregnancy, maternal/infant morbidity, as well as death, continued to constitute public health challenges in many developing nations, including Nigeria (WHO, 2012). There are different types of health-care services that pregnant women use in Nigeria. They are: public hospitals, which are managed and funded by the government; private hospitals, which are managed by private individuals and privately funded through payment for medical services by patients. Others are the mission (spiritual) homes/hospitals, which are non-profit medical facility, and Trado-medical hospitals/centres which are alternative health-care centres. Trado-medical hospitals/centres, make use of indigenous herbalism and African spirituality provided by

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herbalists, diviners, and traditional birth attendants (TBAs) or midwives. However, public health care services, which are the setting of this study, are grouped into primary, secondary, and tertiary health care levels. The Local Government Areas (LGA) are in charge of primary health care (Health Centers); the State Government is responsible for secondary care through the General or State Hospitals; and the Federal Government provides tertiary care through the Tertiary or Teaching Hospitals. Literature reveals that most women who are pregnant prefer to seek healthcare in public hospitals (Olayemi & Okafor, 2016; Odetola, 2015).

Health-care seeking behaviour of primigravidas may determine their HRQoL and reduce pregnancy challenges. Opinions of pregnant women regarding the reasons for their health challenges during pregnancy differ. Some view their challenges as caused by malnutrition, spiritual attack (witchcraft), and traditional black magic (juju). Whereas others are in the category of having no idea of reasons for their health challenges (Ogunjuyigbe & Ayotunde, 2007). These views held by pregnant women tend to influence their health-care seeking behaviour and HRQoL.

Sleep quality is one of the psychological factors identified as relevant to HRQoL. Sleep is an essential and unavoidable daily activity with different dimensions, comprising psychological, physiological and social, which influence QoL and the health of individuals. Sleep is an essential and unique behaviour. It is influenced by various physiological or pathological changes during pregnancy (Yucel, Yucel, Gulhan & Ozeren, 2012). Sleep quality refers to how well one sleeps (National Sleep Foundation, 2020). Discomforts like nausea, heartburn and other discomforts that occur throughout pregnancy may result in a remarkable loss of sleep. Likewise, worry concerning childbirth can result in a reduction in sleep quality, which may result in poor HRQoL. Previous studies have pointed out that seventy-nine percent of women who are pregnant experience sleep disorders (National Sleep Foundation, 2007). In addition, Neau, Texier and Ingrand (2009), reported that over seventy-two percent of expectant mothers suffer from frequent waking up in the night. This may result in deterioration in sleep quality, thus reducing their HRQoL.

According to Rezaei, Moghadam and Saraylu (2013), changes in the pattern of sleep result in maternal fatigue, dysfunction, a reduction in family welfare and a higher risk of car accident. According to their findings, there was a significant interaction between sleep quality and QoL score. Sleep quality may affect pregnant women's health and HRQoL because they are prone to encountering sleep disorders during pregnancy. Sleep deprivation and disturbances have many effects on the human body and psychological health (Topf, 2000). Studies on sleep disorders among pregnant women revealed an increase in depression during pregnancy and delivery, complications in the course of pregnancy and after childbirth, prolong labour, assisted delivery, risk of premature delivery, as well as low birth weight (Lee & Gay, 2004; Kamysheva, Skouteris, Wertherim, Paxton & Milgrom, 2010). In addition, a study carried out on 245 pregnant women by Da-Costa, Dritsa, Verreault, Balaa, Kudzman and Khalife (2010), reported that sleep disorders and depressive feelings were among the relevant parameters that decrease HRQoL during pregnancy. Sleep quality is subjectively assessed by considering the level of an individual's sleep latency, sleep disturbances, sleep duration, daytime dysfunction, use of medication, habitual sleep efficiency and subjective sleep quality.

Another variable that may demonstrate an empirical link with HRQoL among primigravidas is pregnancy-specific stress. According to Littleton, Breitkopf and Berenson (2007), pregnancy-specific stress (PSS) is the concern about the pregnancy process, childbirth, infant health and pregnancy outcomes. Also, Huizink et al. (2002) defined pregnancy-specific stress as concerns, worries and fears of women regarding pregnancy. Pregnancy-specific stress is a concept that is established on the awareness that gravid women are anxious over the different symptoms and alterations during pregnancy, such as physiological symptoms, changes in social interactions, labour, delivery, motherhood as well as the condition of the baby (Alderdice, Lynn & Lobel, 2012).

Pregnancy can be stressful and can create variations in the emotions of pregnant women, which can affect their HRQoL. Pregnant women encounter stress that emanates from various pregnancy distinct challenges, including bodily changes, physical symptoms, worry relating to parenting, relationship tensions, anxiety regarding labour and childbirth, together with worries concerning the fetus' wellness (Misra, O'Campo & Strobino, 2001).

In addition, Lau and Yin (2011) investigated factors regarding maternal obstetrics, stress perception, and HRQoL in women that are pregnant. The results of their study revealed that younger, single, cohabiting, separated or divorced pregnant women, who were less educated and had poor physical HRQoL reported a higher level of perceived stress.

Furthermore, coping style is another factor that can influence the HRQoL of primigravidas. Coping has been described as constantly evolving mental as well as behavioural attempts to deal with distinct internal and/or external challenges that are assessed as challenging or greater than the capacity of the person (Lazarus & Folkman, 1984). There are different methods of coping namely problem-focused coping, emotion-focused coping, avoidance coping, planning/preparation coping, positive/spiritual coping, instrumental social support and behavioural disengagement. Huizink, De-Medina, Mulder, Visser and Buitelaar (2004) noted that the utilization of the right coping style during pregnancy reduces pregnancy-related complications like back pain, nausea and vomiting, loss of concentration, changes in appetites, postpartum depression, emotional disorder and improves HRQoL. Yali and Lobel (1999) explained that women, who were capable of coping with the challenges created by the changes of pregnancy, utilized positive appraisal and spirituality as coping styles. This may enhance their HRQoL. This study examined three different forms of coping styles for primigravidas, namely planning/preparation, avoidance and positive/spiritual coping styles (Yali & Lobel, 1999; Hamilton & Lobel, 2008).

Psychological interventions are training given to individuals to establish positive changes in their lives. Precisely, psychological intervention is defined as an interraction aimed at promoting the better adaptation of the individual to a given situation and thereby optimizing his or her personal resources concerning autonomy, self-knowledge and self-help (Horvath, Del-Re, Flückiger & Symonds, 2013). Also, psychological intervention is referred to as a technique of inducing changes in a person's behaviour, thoughts, or feelings. Psychoeducation is one of the methods used in psychological intervention. Barnes, Simpson, Griffiths, Hood, Craddock and Smith (2011) opined that psychoeducation is a therapeutic procedure that neither concentrates on identifying abnormality nor establishing a cure, instead, it concentrates on creating goals, inculcating

skills, achieving satisfaction together with attaining goals. Elegbeleye (2014) further elucidated that psychoeducation involves various activities that combine education, counselling and other supportive interventions. It makes it possible to evaluate if knowledge and learning are related to participants' health outcomes. With the probable relevance of psychological factors to HRQoL, it becomes imperative to examine the enhancing ability of psychoeducational intervention on HRQoL among primigravidas. Moreover, psychoeducation for pregnant women has been solicited in literature. This is evident in research carried out by Kempler, Sharper and Bartlett (2012) and Rowse, Sperlich and Seng (2014).

Based on the foregoing discussions conducting research on psychological factors (such as health-care seeking behaviour, sleep quality, pregnancy-specific stress and coping styles) that predicts the HRQoL of primigravidas in Ibadan, Nigeria becomes important during this critical stage. In view of this, the study investigated psychological factors (health-care seeking behaviour, sleep quality, pregnancy-specific stress, and coping styles) predicting HRQoL and the efficacy of psychoeducation among primigravidas in Ibadan, Nigeria.

1.2. Statement of Problem

The health and progress of any society are largely based on women's health. Pregnancy and childbirth have a significant impact on women's health. (Da Costa, Dritsa, Verreault, Balaa, Kudzman & Khalife, 2010). Legadec, Steinecker, Kapassi, Magnier, Chastang, Robert, Gaouaou and Ibanez (2018) reported that pregnancy seemed to be a vulnerable period for lower HRQoL compared to other stages of life. The biochemical, physiological, and anatomical changes that occur in pregnant women's body cause changes in their physical, mental, social and overall health dimensions and can easily affect and threaten their HRQoL (Oviedo-Caro, Bueno-Antequera & Munguia-Izquierdo, 2018). HRQoL literature revealed that lower HRQoL was associated with higher mortality rate (McEwen, Kim, Haan, Ghosh, Lantz, Thompson, Herman, 2009; Landman, van Hateren, Kleefstra, Groenier, Gans & Bilo, 2010). Poor HRQoL of pregnant women could be linked to maternal mortality. Maternal death was identified as a salient measure of maternal health as well as well-being in any nation (Sonia & Shanisun, 2012).

The high prevalence rate of maternal mortality in Nigeria is a major concern because Nigeria was ranked with maternal mortality rates (MMR) of 814 per 100,000 live childbirths in 2015 on the maternal index and 71.2 per 1000 live births on the infant death index (World Bank, 2015 & NDP, 2016). Nigeria was rated as the second highest contributor to the maternal and under-five world's mortality rate (UNICEF, 2016). Data on causes of this situation in Nigeria revealed medical conditions like obstetric haemorrhage, sepsis and complication from unsafe abortions while social, economic and cultural factors were identified as contributory factors. Little is known on the precipitating role of HRQoL on maternal mortality (Sageer, Kongnguy, Adebimpe et al. 2019). Although there is no record of the category of pregnant women most affected by maternal mortality. However, the probability exists that primigravidas may constitute a larger percentage of this population considering the fact that they lack experience and may not know how to manage pregnancy challenges. Ayoub and Awed (2018) reported that primigravidas experience more discomfort compared to multigravidas. Empirical studies have shown that primigravidas are in a high-risk group (Danish, Fawad & Abbasi, 2010).

Despite the abundance of health-care resources and government efforts to improve the health-care of pregnant women, literature still reveals that the maternal death rate among pregnant women is still high in Nigeria. Thus, it is necessary to examine the state of HRQoL among primigravidas because data on HRQoL among primigravidas is scanty and mainly based on western contexts. WHO (2015) noted that women who lack skilled health-care during childbirth and lack access to emergency obstetrical health-care are among those at greater risk of stillbirth. Thus, the health-care seeking behaviour of pregnant women is a relevant factor when considering their HRQoL. The health-care seeking behaviour of expectant mothers infuence how health-care facilities and services are utilised to improve their HRQoL. However, majority of research on health-care seeking behaviour of pregnant women are mainly on its determinants, while its predictive capacity for HRQoL among primigravidas needs more empirical examination.

Sleep quality is an important factor during pregnancy. Previous studies confirmed that poor sleep quality is common during pregnancy as it may increase morbidity as a result of depression, psychiatric disorders, early ageing, autonomous dysfunction, car and

automobile accidents, kidney failure, hypercortisolemia, glucose intolerance, decreased efficiency at work etc. (Spiegel, Knuston, Leproult, Tasali & Van-Courter, 2005; Jaussent, Bouyer, Ancelin, Akbaraly, Peres & Ritchie, 2011). Sut, Asci and Topac (2016) reported that sleep quality, as well as HRQoL of women who are pregnant, were poorer than those who were not pregnant. The risks of poor sleep quality among expectant mothers is higher in the middle and last trimesters in contrast with the initial trimester. If this situation continues, many women may likely die due to avoidable pregnancy-related psychological factors or causes. Therefore, this study seeks to expand research by examining the influence of sleep quality on HRQoL

Pregnancy-specific stress has been reported to have an extensive number of unpleasant effects on pregnant women, including primigravidas. Pregnancy-specific stress (PSS) emanates from the various alterations that women encounter in the course of pregnancy, including their worries regarding the delivery process as well as the health of their babies. It has been consistently established that pregnancy-specific stress is a distinct and much better determinant of premature delivery when compared with other indicators of generalized psychological distress (Schetter, 2011; Alderdice et al., 2012). Studies have revealed that pregnancy-specific stress and HRQoL are related. For instance, Shishehgar, Dolatan, Majd and Bakhtiary (2014) examined the perception of pregnancy stress and QoL in Iranian pregnant women. They explored the correlation between the rate of maternal stress together with the quality of life domains. They observed that a remarkable interaction between QoL and pregnancy stress level. Women with a high level of stress have been identified as people that do not adequately maintain healthy behaviour during pregnancy and this can determine their quality of life (Lobel, Cannella, Graham, DeVincent, Schneider & Meyer 2008).

The coping style utilized by pregnant women can be linked to their HRQoL, thus its importance in enhancing HRQoL among primigravidas cannot be overestimated. It is good to note that stress from the cognitive perspective indicates that the way a woman reacts to situations throughout her pregnancy can change her emotional as well as behavioural responses and predicts the manner in which she copes (Guardino & Schetter, 2014). Pregnant women use different coping styles against stressors they encounter during

pregnancy to enhance their HRQoL (Olcer & Oskay 2015). Borcherding (2009) reported that spiritual and task coping were the most commonly utilised coping methods among primigravidas, while emotion and avoidance coping were adopted less frequently. The study concluded that healthy primigravidas used different coping styles. This shows that coping styles are salient psychological variable when examining HRQoL. Maternal coping styles have been demonstrated to influence QoL (Eisengart, Singer, Kirchner, Min, Fulton & Short et al., 2006). Pregnant women may use planned/preparation coping, avoidance coping, or positive/spiritual coping to manage pregnancy stress.

Moreover, studies carried out on the routine antenatal health talks received by pregnant women in most hospitals in Nigeria revealed that they focus on several topical issues that include a balanced diet, personal hygiene, danger symptoms in pregnancy, the labour process, care of the newborn, exclusive breastfeeding and immunization (Nwaese, Enabor, Oluwasola & Aimakhu, 2013). This notwithstanding, studies have shown that despite the antenatal health talk received during pregnancy, some pregnant women still develop psychological problems such as sleep disturbances, which lead to poor sleep quality, pregnancy-specific stress, depression and poor HRQoL (Thompson & Ajayi, 2016; Sut et al., 2016; Tomfohr, Buliga, Letourneau, Campbell & Giesbrecht, 2015). This brings to reality the need to incorporate relevant psychological factors into the antenatal health education received by pregnant women.

It is important to point out that Farrokhi and Khadivzadeh (2003) observed that prenatal health is efficient if accompanied by preventive services and the administration of maternally necessary interventions. Darmstadt, Zaidi and Stoll (2011) also affirmed that one method that can be used to tackle the issue of stillbirths and maternal mortality is to improve existing maternal and child health programs by concentrating on key interventions. The use of an effective intervention directed at improving the HRQoL of primigravidas for better pregnancy outcomes, is thus urgently required, as this would go a long way towards enhancing their HRQoL. From the ongoing, there is an obvious gap in the literature concerning the identified psychological factors that could predict primigravidas' HRQoL, including the use of psychoeducational preventive intervention in Ibadan.

1.3. Research Questions

From the identified gaps in literature, the following research questions emerge:

1. What is the predictive influence of health-care seeking behaviour, sleep quality components, pregnancy-specific stress and coping style on HRQoL among primigravidas?
2. How would demographic variables influence HRQoL among primigravidas?
3. How would pregnancy trimesters predict HRQoL among primigravidas?
4. How would primigravidas in the experimental group report better HRQoL than those in the control group at pre-test?
5. How would primigravidas in the experimental group report better HRQoL than those in the control group at post-test?
6. How would primigravidas in the experimental group report better HRQoL considering the sub-domain (physical health, psychological, social relationships and environment) compared to the control group at post-test?

1.4. Objectives of the Study

This research empirically investigates the influence of health-care seeking behaviour, sleep quality components, pregnancy-specific stress, coping styles domains and verify the efficacy of psychoeducation on HRQoL among primigravidas in Ibadan, Nigeria.

Specifically, the study intends to:

i. examine if health-care seeking behaviour, sleep quality components, pregnancy-specific stress and coping style domains would predict HRQoL among primigravidas.
ii. verify if demographic variables would have significant influence on HRQoL among primigravidas?
iii. examine if there would be significant difference in HRQoL across the trimester stage of pregnancy among primigravidas.
iv. verify if primigravidas in the experimental group would report a better HRQoL than those in the control group at pre-test.

v.   examine if primigravidas in the experimental group would report a better HRQoL than those in the control group at post-test.

vi.   test if primigravidas in the experimental group would report better HRQoL considering the sub-domain (physical health, psychological, social relationships and environment) compared to the control group at post-test.

1.5. Statement of Hypotheses

Six hypotheses were formulated by the researcher in the study:

1. Health-care seeking behaviour, sleep quality components, pregnancy-specific stress and coping style domains would jointly and independently predict HRQoL among primigravidas.
2. Demographic variables would have significant influence on HRQoL among primigravidas.
3. There will be a significant difference in HRQoL across the trimester stages of pregnancy among primigravidas.
4. Primigravidas in the experimental group would report a better HRQoL than those in the control group at pre-test
5. Primigravidas in the experimental group would report a better HRQoL than those in the control group at post-test
6. Primigravidas in the experimental group would report better HRQoL considering the sub-domain (Physical health, Psychological, Social relationships and Environment) compared to the control group at post-test

1.6. Relevance of the Study

The study provides empirical information to developmental psychologists, Health Management Boards and health practitioners in antenatal sections on specific predictors of HRQoL among primigravidas as few studies have been carried out regarding this. The study brought to limelight the psychological components that can affect their HRQoL. It also added to available literature on HRQoL of primigravidas, providing methodological

relevance for future studies and even spur further studies with the intent to address issues bothering on HRQoL either in a similar or different sample or setting.

Moreover, the development of an indigenous pregnant women health-care seeking behaviour scale serves as a means to verify reasons pregnant women patronize public hospitals. Thus providing a better understanding regarding this and informed relevant intervention. The outcome of the study established the need for primigravidas to seek psychologists' attention during pregnancy and not only medical attention. Health Management boards and related authorities can make recur to the findings of this study in formulating policies and developing programmes that will benefit primigravidas and improve their HRQoL. Such a programme would address the psychological factors implicated in this study as a means to enhance their HRQoL.

Furthermore, the improvement in HRQoL through the support of psychoeducation for primigravidas (PEP) provides evidence on the efficacy of the intervention in enhancing HRQoL among primigravidas. This provides the theoretical foundation for incorporating new components into the list of issues that psychological intervention can impact. Thus, this will become handy for primigravidas and psychologists all over the nation. The use of practical and adaptable modules of psychoeducation for primigravidas (PEP) in this study further enhanced the understanding of psychologists on psychological factors that can improve HRQoL of primigravidas. Thus, help in proffering solution to the problem of stillbirth, maternal mortality, complications, and other problems that primigravidas experience during pregnancy and childbirth.

1.7. Operational Definition of Terms

The concepts that were used in this research were explained below for better understanding.

Health-related quality of life (HRQoL): in this study HRQoL refers to primigravidas assessments of their current level physical health, psychological, social relationship and environment health. Physical health encompassed exercise, physical health, nutrition, clothing, personal hygiene and overall characteristic. Psychological health includes

elements like cognitive functioning, emotional distress and anxiety. Social health examines the way individuals viewed their personal experiences in term of personal relationships, sexual activities, social supports and the meaning that their situations have for them at a particular time in their lives. Enviornment deals with the condition of the environment.

World Health Organization Quality of Life (WHOQOL – BREF) scale was adopted to evaluate the HRQoL of primigravidas in the study. The scale consists of two parts. The first part has two (2) items which evaluate the respondent's subjective assessment of her quality of life and satisfaction with her state of health. The second part which has twenty four (24) items, evaluates the four (4) domains: physical health, psychological health, social relationship and environment. The scoring format for the scale ranges from very poor (1) to very good (5), the higher the score of the participants on the scale, the better their HRQoL while the lower the scores the lower their HRQoL. In this study the $\bar{x}$ and SD reported were 95.53 and 12.33 respectively

Psychological Factors: In this study, psychological factors that were examined include health-care seeking behaviour, sleep quality, pregnancy-specific stress and coping styles, each of which is defined as follows:

Health-care Seeking Behaviour (HCSB): refers to primigravidas reasons for choice of public health-care facilities and personnel's or professionals. Pregnant Women Health-care Seeking Behaviour Scale (PWHCSBS) was used to evaluate the health-care seeking behaviour of pregnant women. PWHCSBS is a 15-item questionnaire developed by the researcher. The norm of the scale is $\bar{x}$ (46.76) and SD (12.92) therefore scores at or above the reported norm indicates good HCSB and vice-versa. Cronbach's alpha reliability co-efficient for PWHCSBS was confirmed to be 0.81.

Sleep Quality: sleep quality refers to how well primigravidas sleep. In otherwords, it deals with quantitative aspect of sleep. Pittsburgh Sleep Quality Index (PSQI) was utilised to evaluate sleep quality of primigravidas. The PSQI was developed by Buysse, Reynolds, Monk, Berman and Kupfer (1989) and it yields seven components (i.e. subscales) scores: subjective sleep quality, sleep latency, sleep disturbances, sleep duration, use of

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medication, habitual sleep efficiency and day time dysfunction. Each domain is ranked on a scale of 0-3, therefore the score is between 0 and 21. A global score of subjective sleep quality is obtained by summing the seven components of sleep quality. PSQI scores below 5 were classified as good sleepers and scores above or equal to 5 were categorised as poor sleepers. This means that a low score indicates good sleep quality while a high score indicates poor sleep quality. In this study the $\overline{x}$ and SD reported were 4.88 and 2.74 respectively.

Coping Styles: coping styles are cognitive and behavioural methods primigravidas utilised to deal with stressful situations. Coping styles were measured using the Revised Prenatal Coping Inventory (NuPCI) by Yali and Lobel (1999). Hamilton et al. (2008) recorded Nu-PCI is estimated on a 5-point Likert scale which ranges from 0 to 4. High scores on the planning/preparation and positive/spiritual domains mean low score on the avoidance domain and indicates that the respondent adopts more positive coping styles. High score on the avoidance domain means low score on the planning/preparation and positive/spiritual domains and indicates that the respondent use more negative coping style. In the current study, $\overline{x}$ and SD scores reported for the domains are $\overline{x}$= 33.14, SD=11.43 (planning/preparation coping), $\overline{x}$= 30.74, SD= 10.98 (avoidance coping) and $\overline{x}$= 15.40, SD=5.62 (positive/spiritual) Cronbach's alpha of 0.91 was recorded during revalidation of the instrument in the course of this study.

Pregnancy-specific Stress: pregnancy-specific stress can be described as fears about the health and wellness of the fetus, the imminent delivery and health-care encounters (such as the individual's health and survival during pregnancy), postpartum and the maternal role. In this study, it was measured by the Revised Prenatal Distress Questionnaire (NuPDQ)**.** NuPDQ is a self-report scale designed by Yali and Lobel (1999) to examine prenatal distress in gravid women. The overall Nu-PDQ score yields Cronbach's reliability coefficient of 0.80 and 0.81 (Alderdice & Lynn, 2011; Plues, Bolten, Pirke & Hellhammer, 2010). The scale scores range from 0-34. Higher prenatal distress scale scores indicate higher prenatal distress in expectant mothers (Lobel, 2008a & b). This study recorded $\overline{x}$ and SD of 10.51 and 6.92 respectively**.**

Primigravidas: primigravidas refers to women who are carrying their first pregnancy at the time of this research and are attending antenatal care in government (public) hospitals in Ibadan.

Antenatal Care: it can also be called prenatal care. It is a kind of preventive healthcare service women receive from medical personnel to avert and attend to possible health challenges during pregnancy.

Psychoeducation for Primigravidas (PEP): in this study, PEP is a six weeks intervention plan developed by the researcher to assist primigravidas improve HRQoL. This intervention is administered in a group format. It is a behavioural coping skill intervention developed from the conbination of some psychological factors (health-care seeking behaviour, sleep quality, pregnancy-specific stress and coping styles). The intervention focused on setting goals, teaching skills, attaining satisfaction, and achieving goals.

Age: this refers to the length of time primigravidas had lived after they are born. It is measured in years and self-reported by primigravidas. The ages of primigravidas in this study were grouped into six; 18- 21years, 22- 25years, 26- 29years, 30- 33 years, 34-37 years and 38- 41years.

Education: this refers to the length of formal education. Participants were requested to indicate their educational level in the section A of the questionnaire such as no formal education, primary school education, secondary school education, (OND/NCE) and HND/University Degree.

Marital Status: this is the civil status of primigravidas in relation to the marriage law or customs of the country. Participants were asked to indicate their marital status in the section A of the questionnaire. It was observed at four levels i.e. single, married, divorced and living apart.

CHAPTER TWO

LITERATURE REVIEW

This chapter focuses on the theoretical framework as well as the literature review for the study. Theoretical framework, review of relevant empirical works and conceptual framework were areas of concern in this chapter.

2.1. Theoretical Framework

A theory can be viewed as a set of similar principles and definitions that presents an organised opinion of situation by identifying the interractions among variables so as to examine natural situation (Kerlinger & Lee, 2000). Theories are important because they provide basis for proposition and also establish whether there is a link or not among the variables of interest. The following theories were reviewed and applied in other to understand the relationship among the variables of the study.

2.1.1. Revised Wilson and Cleary Model of HRQoL

This study utilized the revised Wilson and Cleary model of HRQoL as one of the theoretical framework (Ferrans et al., 2005). Wilson and Cleary (1995) conceptual model incorporated both the clinical and psychosocial strategy to health care. They proffered that general quality of life is considered as a subjective feeling of happiness as well as satisfaction with life that is influenced by individual factors like marital status, sex, emotional sensitivity to unfavourable conditions, mental functions and the extent of enthusiasm to use corrective measures. Social-environmental factors, like family, neighbours, friends, place of work as well as the whole support system. Biological factors, like the operation of cells, organs including biological systems; symptoms, or how individuals view their own physical, cognitive as well as emotional state as digressing

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from the norm. Bio-psycho-social functioning, or an individual's capacity to carry out activities in different aspect of life relating to their physical, psychological and social functioning including individual's subjective evaluation of their personal health condition.

The model connected the biological and physiological factors to the measure of HRQoL. This connection was created to promote study on HRQoL from the conventional descriptive patterns to models, so that influential interactions among the units could be examined and specified. The Wilson and Cleary model is the most commonly used conceptual framework of HRQoL (Bakas, McLennon, Carpenter, Buelow, Otte, Hanna… Welch, 2012; Ferrans, Zerwic, Wilbur & Larson, 2005). The model outlines classification of patient outcomes categorized into five basic health constructs. The model suggests distinct related connections between these health constructs. The basic postulations of the model are that having knowledge of the interactions that exist amidst these constructs will assist the development of fairly efficient clinical interventions (Wilson & Cleary, 1995). The five health constructs highlighted in the model were physiological and biological factors, functioning, symptoms status, general health perceptions and overall quality of life.

Ferrans, Zerwic, Wilbur, and Larson (2005) presented a revised version of the Wilson and Cleary (1995) model of HRQoL to modify its interactions and the effects of factors on each other. It was also developed so as to explain the interactions of clinical factors that are related to quality of life. The revised model has the following components: Biological Function, Symptoms, Functional Status, General Health Perceptions, Characteristics of the Individual, Characteristics of the Environment, and Overall QoL as shown below.

Figure 2.1 Shows Revised Wilson and Cleary Model for Health-Related Quality Life.
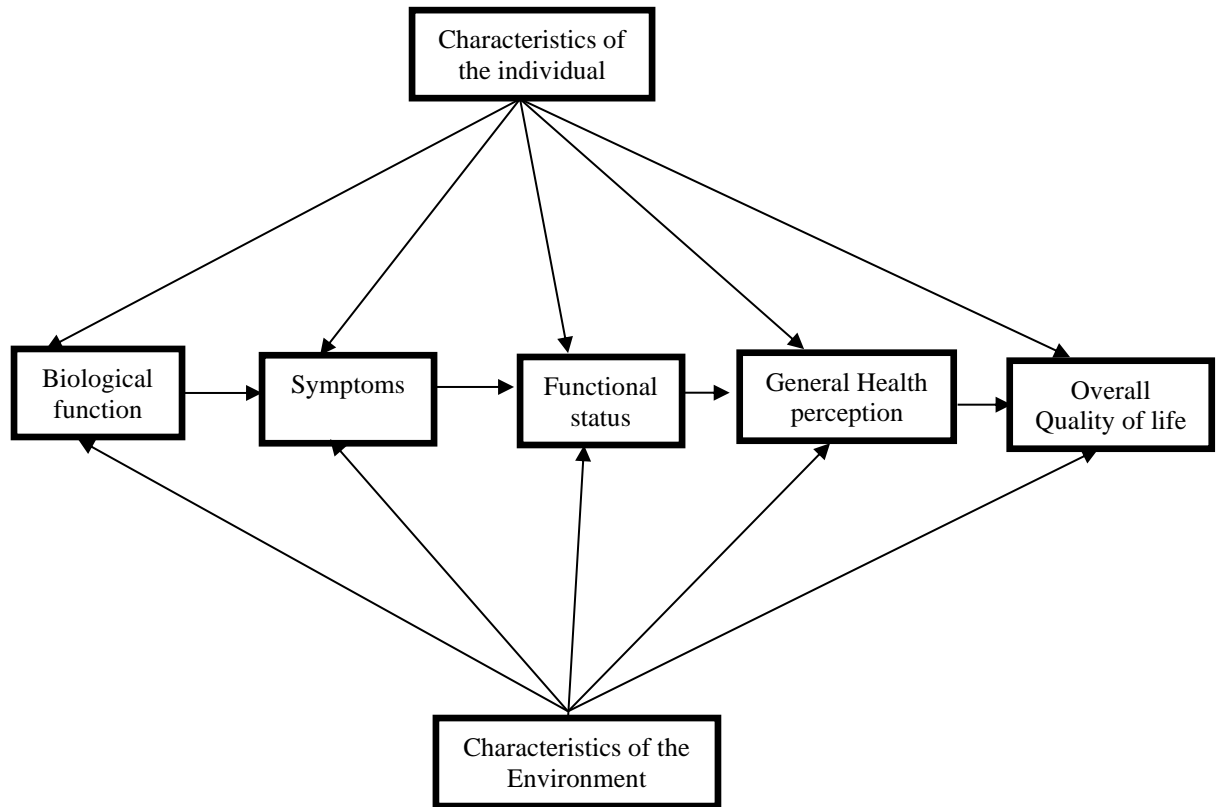
Adapted from Wilson, I.B., & Cleary, P.D (1995).

The revised model modified Wilson and Cleary's model biological and physiological variables to biological function while the variable "Nonmedical Factors" was excluded. The foremost constituent of the model was replaced with biological function since changes in biological function directly or indirectly influence all constituents of health, together with symptoms, functional status, perception of health, and overall quality of life (Ferrans et al., 2005). The factors in the model can have inter-relationships at every level of the model (Ferrans et al., 2005).

HRQoL of pregnant women may be understood from this perspective. The model incorporates both individual and environmental stages in which interaction exists between the five variables: biological function, symptoms, functional status, general health perceptions, and overall quality of life. The individual stage in the context of pregnant women can be related to intrapersonal concepts which may include developmental, demographic, biological or psychological variables. The individual level affects the five components: biological function, symptoms, functional status, general health perceptions, and overall quality of life. The environmental level can be related to environment factors which influence pregnant women HRQoL. Examples are social influences from family, friends as well as health care personnels. The environmental influence also encompasses influences from the physical environment like the ones incorporating the home, neighbourhood, as well as place of work. HRQoL model distinctly specifies individual and environmental levels in which health experiences occur. Futhermore, the model explains health using the general health perceptions component (Jang & Vincent, 2019).

The foremost factor, the biological factor is regarded the most important. It entails measurements such as physical examination, blood pressure and laboratory tests. Ferrans et al. (2005) expressed that biological function point to the dynamic procedures of life which was identified as a sequence of appropriate performance on one hand and severe life-threatening pathological performance on the other hand. Biological functions directly or indirectly influence the remaining variables while biological function is influenced by connection with the individual and environmental stages. Thus, all aspects of pregnant women's health may be impact by changes in biological function.

The symptom status which is second variable entails of psychological, emotional and physical conditions subjectively encountered by pregnant women. The next factor outlined in the model was the functional status and it was identified as the pregnant women's capacity to carry out specific work or activity. Functional status is often persepectively described by the pregnant woman but can likewise be measured by others. The model revealed that functional ability may be directly influenced by symptoms and biological function. Also functional ability may be influenced by features of the individual as well as the environment. This means that if pregnancy symptoms are critical, they could influence daily amounts of performance, in such a way that make the pregnant woman tend to be physically weakened (decrease in functional status) (Jang & Vincent, 2019). Nonetheless, the rate of the reduction in daily performance could as well be affected by individual characteristics like health-care seeking behaviour, sleep quality, pregnancy-specific stress and coping styles. General health perception, which is the fourth variable, is the total view of pregnant women of their overall health condition. It also considers how pregnant women weigh and value their functional or symptoms capacities. Thus, QoL is pregnant women's total life satisfaction.

Due to the fact that the revised Wilson and Cleary model integrates individual features with environmental features, it is a relevant model for conducting HRQoL study among primigravidas since their health status at this critical stage of their lives can be influenced by both intrinsic and extrinsic psychological variables. HRQoL of expectant mothers can be affected by the five clinical factors identified in the theory such as biological variables, symptoms status, functional status, general health as well as patient complete contentment with life. Moreover, the model includes the human means of surviving. Evaluating these interactions as they relate to pregnant women can give indept knowledge into certain psychological factors influencing their HRQoL. The revised model is principal to this study since it added to the present perception and comprehension of the fundamental variabless which influence the health condition of pregnant women.

The overall purpose of using this model is to gain more understanding of the factors that affect HRQoL of primigravidas. Adopting this model for the study has established a novel knowledge within HRQoL theory to enhance primigravidas outcomes. Moreover, the model is applicable in this study due to the fact that it has the potential of benefiting primigravidas by operating as basic proof to develop interventions that will enhance their HRQoL. In addition, the model was designed to describe the relationship of clinical factors that partain to HRQoL, this make the model relevant for guiding pregnant women HRQoL research. However, this model fails to address how individual's psychological beliefs affect their health behaviour. This was incorporated in the health belief model.

2.1.2. The Health Belief Model (HBM)

The health belief model (HBM) is a health-specific behavioural cognitive model by Hochbaum and associates in the United States Public Health Service (Haastrup. 1998). The motive behind developing the model was to explain participation in screening programmes. According to Mullen, Hersey and Iverson, (1987), the model stresses that readiness to take action on one's health stems from a perceived threat of disease, depending on an individual's opinion of his or her vulnerability to a disease including its potential severity. The cues to action can be generated by an individual's perception and conviction while compliance will depend on how some intervening variables influence the health issue in question. Where an individual believes that he is susceptible and perceives that falling sick would lead to serious organic and social impairments, his likelihood of taking action is higher (Jegede, 1998).

According to Becker and Maiman (1975) health belief model stresses the interaction that exist between a person's psychological belief and his health behaviour. Uniquely, the theory creates an avenue of comprehending and determining the way pregnant women will behave regarding to their health and how they will abide by health instructions.

Igun (1982) explores health seeking behaviour from three viewpoints, which are

1. those that solely use mainly psychological processes and factors to explain decisions.

2. those that use demographic characteristics of individual and the system of delivery in health care to explain decision, and

3. those which utilise socio-psychological processes to explain decisions.

The health belief model is among renowned theories that predict health decisions solely on psychological variables that apply to individual (Jegede, 1998). The theory states that when cures to steps, such as assumptions exist, the changes in utilization – behaviour can be explained by two major variables namely:

i.   the perceived amount of threat

ii. the attractiveness or value of the behaviour.

Becker and Maiman (1975) explained that a person's understanding of amount of threat in a health or illness behaviour could be determined by three sub-variables namely:

i.   importance of health to the individual

ii. perceived susceptibility of the disease and

iii. perceived seriousness of the disease (Jegede, 1998).

Similarly, the attractiveness or value of a health or illness behaviour could be influenced by;

i.   the perceived probability that the action will lead to the desired preventive result and

ii. the cost of taking an action compared with refusal to take the action and suffering the consequence.

In essence, this reveals that the health seeking behaviour of pregnant women as well as their decision-making process determines their assessment and value for health. This resultantly influences their belief, attitude, and conformity to health instruction. Decision – making in this sense is dependent on three factors namely: culture, human nature and health related behaviours' pattern (Jegede, 1998)

For pregnant women to make decision related to their health, they have to believe first that they are vulnerable to the certain disease, in which case the level of vulnerability may be mild or severe. It could be inferred from the above points, that even when a pregnant woman is highly susceptible to a disease through her social lifestyles and attitudes, she must perceive it rightly as so. Where she feels invulnerable as a result of recognised dangers, a situation of denial ensures. Under such a circumstance she is not likely to seek medical help or comply with therapy procedures because of her "perceived invisibility". Compliance with health instructions rely on many factors no matter the level of susceptibility, these factors are:

i.   Individual disposition factors like personality, sex, age, marital state and
ii.   Personal promoting factors like educational status, income insurance scheme, societal status e.t.c.

According to Zola, (1964), some individuals whose situation demanded reasonably positive steps refused undertake such steps even when they are in serious trouble. He concluded that there are some past experiences that disturb their rationality, if not they would seek assistance. The model assumes that all its components must be present for a belief to be followed by an action. Janz and Becker, (1984) and Mahoney, Thombs and Fords (1995) reviewed the model's components and their relationship to health related behaviours. Perceived barrier was identified to be the strongest of the elements that significantly influence preventive behaviour, followed by perceived benefits, perceived susceptibility and perceived severity in that order. Primigravidas appraisal of the health challenges, she could experience, gear up her attitude towards seeking for health care. This could be influenced by the individual's value for health, perceived degree of susceptibility, as well as her ability to view health in a continuum, where death and peak-health are seen at two extremes with normal health in between (Roy, 1976).

The model opined that individual's (primigravida in this context) health-related actions are predicted by their beliefs and behaviours. The model also posits that for primigravida to take health action there is always a thought about what she believes in which if not moderated determines what she will do. The health care facilities primigravidas patronize

can be influenced by the belief they have in such health facilities and that belief can make them take action, which is, seeking for care in such health care facilities during this critical stage in their lives. Moreover, the extent to which she cherishes such health-care and the perceived susceptibility would determine her actions and lifestyles. In addition, if a pregnant woman realizes that she is vulnerable to health issues through her behaviours, this awareness should prompt her to seek for health-care. The knowledge of the implications of not seeking for health care at the right place can motivate her towards going for health care at the appropriate place. It is important to note that though health belief model was able to connect the health belief system of individuals to their behavioural responses, it did not address how psychological challenges like pregnancy specific stress and poor sleep quality experienced by primigravidas can be handled.

2.1.3. Repair and Restoration Theory of Sleep

Oswald (1966) proposed the restoration theory which assumed that sleep restores used up means of energy, refurbishes cells and evacuates waste from muscles. For instance waste chemicals accumulated in the muscles as a result of neurotransmitters used for communication in the nervous system and physical exertion are likely to be exhausted during the day. Sleep therefore might be the right time for the body to get rid of this waste, renew its level of neurotransmitters and getting ready for activity the next day.

According to the theory, sleep makes available a period for the body to recover by renewing resources that have been exhauted during the day including neurotransmitters that are crucial to communication between neurons. It is also the period damaged cells are repaired and various muscles are detoxified. These assumption was confirmed by the report that majority of body's functions like repair of muscle, growth of tissue, protein synthesis and release of the crucial hormones for growth takes place majorly during sleep (Brinkman & Sharma, 2020). Another evidence comes from the feeling tiredness most people experience before sleeping and feeling more energetic and refreshed when they wake up. Moreover, during the period of illness people tend to spend more time sleeping, presuming that sleep may be related with the recovery process. Oswald (1980) and Hartman (1984) added to the theory to incorporate restoration during rapid eye movement

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(REM) sleep. They acknowledge that REM is for the brain's restoration and non-rapid eye movement (NREM) sleep is the time when the body replenishes, especially stage three and four, which happens at the beginning of the night when the body is completely exhausted. At these periods, the body secret greater level of growth hormones in the blood, this would help in the repair process.

Repair and restoration theory of sleep can be applied to pregnant women because sleep is necessary for revitalizing and renewing the physiological processes that help to keep their mind and body properly functioning and healthy. This theory opines that rapid eye movement sleep is necessary in restoring mental functions while non-rapid eye movement sleep is crucial for restoring physiological functions. There are evidences that the requirement for sleep varies among people and that individual neurobehavioural reactions to sleep deprivation varies. This theory explains the importance of sleep and its effect (both negative and positive) in one's life. Sleep is a fundamental need that entails physiological, psychological as well as social aspects consequently, impacting pregnant women's health and HRQoL. Sleep disturbance during pregnancy are a concern for expectant mothers (National Sleep Foundation, NSF, 2015). NSF (2015), observed that seventy-eight percent of expectant mothers reported having increased sleep disturbances in pregnancy compared with other periods of their lives. In addition, Sharma and France (2004) reported that most pregnant women (97%) recounted sleep disturbance during the last trimester of their pregnancy. Sleep disturbance, which causes poor sleep quality in pregnant women, can affect their HRQoL.

2.1.4. Lazarus Theory of Stress and Coping

Lazarus (1966) postulated a transactional model of stress and coping theory that accentuates appraisal to assess threat, harm, and challenges, which leads to the process of coping with stressful situations. The theory submits that individuals mentally assess events to decide the degree to which the event is likely to exhaust their available resources (Lazarus & Folkman, 1984). A benefit of this stress theory is that it gives room for individual differences in evaluation of situations, thus explaining the differences between individuals that are exposed to similar situations.

Stress is defined as the reactions to circumstances whereby pregnant women evaluate these circumstances as outweighing their abilities or available resources. Stressors on the other hand, are expectations of the environment (internal or external) that have the potential to upset pregnant women's state of equilibrium affecting her quality of life. Stressful encounters are viewed as person-environment transactions mediated by the individual's assessment of the source of stress as well as his available resources (Cohen, 1984). Challenges are the stressors evaluated as capable of aiding individual's growth enabling him attain desired goals whereas, hindrances are those stimuli that have no potential for personal gains (Selye, 1983). Lazarus theory has pass through several important revisions. The resent version described stress as a relational construct that is stress is neither a particular type of outter motivation nor a particular mode of physical, behavioural, nor subjective responses. Conversely, stress is an interaction relating pregnant women and their environment. Psychological stress is viewed as an environmental connection that the individual rates as important for his or her well-being and in which the requirements tax or exceed existing coping sources (Lazarus & Folkman 1986). This description of psychological stress highlights cognitive assessment as well as coping as the two actions that are central intermediates within the person–environment transaction.

The notion of appraisal which was initiated into emotion studies by Arnold (1960) and expanded in relation to stress measures by Lazarus (1966) is important for comprehending stress-related transactions. Appraisal is pregnant women's assessment of the importance of what is occuring for their well-being. These are certain appraisals pregnant women may make when faced with stressors:

(1) how will this situation affect my capabilities or resources? Will there be depletion?

(2) how does the stimulus benefit me? Will it benefit me or not?

(3) how can I manage this particular situation? (Lazarus et al., 1984).

This concept relied on the opinion that emotional measures (including stress) are based on real expectation that pregnant women display concerning the importance as well as result

of a particular experience. This notion is essential to describe each woman's distinctness in intensity, attribute as well as extent of a trigered emotion in settings that are fairly uniform for various people. It is largely presumed that the outcome was caused, sustained, and in the long run changed by a particular form of appraisals. Lots of individual and environmental features established these appraisals. The greatest factors on the individual aspect are values, generalized expectancies, goals, as well as motivational dispositions. Related environmental amplitude are controllability, predictability as well as nearness of a possibly stressful situation.

Lazarus (1991), diferentiates fifteen major emotions. Out of these emotions, nine are adverse emotion (anxiety, anger, sadness, guilt, fright, envy, jealousy, disgust, and shame) while four are positive (relief, happiness, love and pride). Two additional emotions, compassion and hope, possesses a mixed valance. Considering the molecular state of assessment, the anxiety response, for instance, is established on the subsequent form of major and minor appraisals: there must be certain targets significant to the experience. Moreover, goal disparity is enormous, that is individual targets are obstructed. Lastly, ego-involvement focuses on the defence of individual meaning or ego-identity contrary to existential risks. At a more molar state, distinct forms of appraisal similar to stress or specific emotional responses are identified as main relative concepts. The concept of anxiety, for instance, is the encounter with improbability as well as existential risk. The main relational concept of relief is a stressful goal-dissonant situation that has improved or disappeared (Lazarus 1991).

Lazarus (1993) extensive emotion theory added a stress theory, which distinguishes two main forms of appraisal which are primary and secondary appraisal. Primary appraisal deals with whether something of importance to the pregnant woman's well-being happens. In otherwords, the main evaluation (primary appraisal) requires that the pregnant woman determine the relevance or irrelevance of the situation, whether it is positive, controllable, challenging, harmful or irrelevant. Secondary appraisal involves the pregnant woman assessing actions to be taken to control or forestall damage or to enhance the expectations for benefit. Some coping alternatives are examined, such as modifying the condition, acknowledging it, searching for more knowledge or refraining from exhibiting careless

and adverse behaviour (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; Smith & Kirby, 2011). Also there is a reappraisal, where the pregnant woman reassesses her coping resources and may change the primary appraisal because of the reassessment made.

The main constituent of secondary evaluation or appraisal is coping. Lazarus revealed that cognitive appraisal happens when an individual examines two main factors that majorly lead to his reaction to stress. These factors are:

   i.   the intimidating propensity of the stress to the individual and

  ii.   the evaluation of resources needed to reduce, accomodate or remove the stressor and the stress it generates.

Coping was expressed as behavioural or cognitive mechanisms used to reduce stressful demands experienced by an individual. Majority of the methods in coping research surpport Folkman and Lazarus (1980), who identified coping as the cognitive as well as behavioural attempts undertaken to learn, endure, or minimise internal and external challenges and discords among them. The implications of this description of coping are as follows;

 (a) coping responses are not grouped according to their outcomes but in line with specific features of the coping procedure.

(b) this process includes individual behavioural and cognitive responses.

(c) more often, coping involves of different single actions and is arranged successively, creating a coping phase. Regarding this, coping is mostly portrayed by the concurrent incident of various action courses and, thus, an interaction of coping phase.

Coping efforts has been differentiated by their emphasie on diverse factors of a stressful situation (Lazarus et al., 1984). Attempt can be made to modify the person–environment certainty causing stress or adverse emotions (problem-focused coping). Attempts can likewise connect to intrinsic factors and attempt to minimise an unfaourable emotional condition, or alter the assessment of the challenging condition (emotion-focused coping).

Lazarus and Folkman (1984) explained that some coping techniques are not essentially more superior to others. Actually, successful coping needs a fit between conditional appraisals and selection of coping reactions (this idea is also regarded as the goodness of fit model). Precisely, understanding of manageability of the condition should result in the use of problem-focused techniques to a significant level than emotion-focused techniques, which are more appropriate for conditions which are less manageable.

Futhermore, Lazarus (1991) enuciated that coping is an inconstant process with significant intra-individual as well as inter-individual alternation. Pregnant women may need to use various coping techniques at various phases of similar stressful experience or from a stressful experience to the other (Folkman & Lazarus, 1985). Likewise, coping styles that are useful for a particular pregnant woman may not be useful for another in similar situation. Nonetheless, Lazarus (1993) admitted that a couple of coping styles are more constant than others, but he did not support to the trait view point on coping. The trait approach beliefs that each person has choice of coping abilities (i.e. coping strategies) that they utilise for various encounters (Krohne, 1996).

Problem-focused coping (PFC) and emotion-focused coping (EFC) were described as specific coping efforts. PFC deals with the stressor, and find ways to address the challenges. This form of coping style is often used when the stressor can be controlled by the pregnant woman. Adopting a problem–focused strategy includes pregnant women trying to reduce the stress they feel by attempting to modify the source of the stress. This may involve: trying to remove the origin of stress, preparation for the stressor, suppressing of other activities that contend for attention, waiting for a better occasion to handle the situation and seeking social support from others. Examples of problem-focused coping techniques are management of priorities, increasing effort as well as planning. Emotion-focused coping, on the other hand, reduce feeling of distress related with stressful events.

This form of coping style can be utilised if the pregnant woman sees the stressor as not controllable. In employing the emotion-focused strategy, the pregnant woman seeks emotional support to handle the distress she experiences. This may include coping behaviours such as seeking the support of others for emotional purposes, concentrating on

expressing emotions she feels. Examples of emotion-focused coping techniques are isolation, wishful thinking and distancing. Lazarus et al. (1984) also included strategies generally viewed as maladaptive, that is, behavioural disengagement and denial, as part of emotion-focused coping. Emotion-focused coping and problem-focused coping techniques can be utilized to a different level in the similar stessful person–environment interaction.

Secondary appraisal processes are complex and differences in the individual may affect the connection that exists between the stressful situation and the strategy for coping selected. Coping actions may actually lead to various behavioural, health-related and affective results. Effective coping has been connected to improved mental health, quality of life as well as illness reduction (Aldwin, 2000). Coping actions can likewise lead to body image concerns (Sabiston, Sedgwick, Crocker, Kowalski, & Mack, 2007), favourable adjustment to stressors like adjustment to sickness (Holland & Holahan, 2003), and caregiving responsibilities (Kneebone & Martin, 2003).

Lazarus theory of stress and coping can be applied to primigravidas' coping efforts and HRQoL. The way women viewed situations when pregnant can influence their behavioural and emotional reactions and thus determine the way they cope (Guardino et al., 2014) The coping style used by expectant mothers can determine birth results by helping to reduce or impede bad emotional, cognitive, physiological as well as behavioural reactions to stressors. Thus, the ability to choose and utilise the right coping response could stand as a resilience measure that buffers expectant mothers from the dangerous consequences of exposure to prenatal stress (Guardino et al., 2014).

This theory helps to gain understanding on coping strategies primigravidas may use to handle their pregnancy-specific stress. Many studies have shown that pregnancy-specific stress symptoms such as depressed mood negatively influence many dimensions HRQoL (Setse, Grogan, Pham, Cooper, Strobino, Powe & Nicholson, 2009). Schishehgar, Dolatian, Majd and Bakhtiary (2014) suggested that quality of life may affect the perceived stress during pregnancy. In addition, the final outcome revealed that there is a remarkable interaction between quality of life and pregnancy stress level.

2.2:   Related Empirical Review of Studies

2.2.1:   Pregnancy and Primigravida

Pregnancy is an important, delicate, interesting and exciting aspect of women's life. It demostrates a natural course in the female life cycle. Pregnancy can be called gravidity and is the period during which offspring(s) develops in the womb of a woman. The situation where pregnant women conceive more than one offsprings such as twins is called a multiple pregnancy (Wylie, 2005). A woman can be pregnant through sexual intercourse or assisted reproductive technology (ART) (Nierenberg, 2015). A normal pregnancy lasts about forty weeks and it is calculated from the last menstrual period till childbirth (Abman, 2011). An extra two weeks is counted at the beginning of the pregnancy when pregnancy has not actually taken place. Pregnancy "officially" last for ten months (forty weeks) because of these extra weeks (American College of Obstetricians & Gynecologists, 2013).

Childbearing is among the most painful process that a woman will probably pass through in her lifetime. First pregnancy has been observed as a significant transition in women's life (Hofberg &Ward, 2003). Ahmadi et al. (2014) noted that first pregnancy is a special experience and vital occurence in women's life. Physical appearance changes, feeling associated with motherhood as well as family expectations are part of the challenges that many primigravidas encounter more frequently. Gravida refers to pregnancy. The word gravida was formed from the Latin word *gravidus*. Gravid is used to explain a woman who is pregnant. It is a medical word for the overall number of established pregnancies a woman has had, no matter the result of the pregnancy. For instance, a woman who is pregnant for the first time will be referred to as primigravida, which means first pregnancy (Susan, 2020).

 There are different types of gravidas such as:

i.   Nulligravida: indicates a woman who has never been pregnant (or gravida 0).

ii.   Primigravida: implies a woman who is pregnant for the first time or who became pregnant once, that is, from the period a woman conceive for the first time up till the time she conceive the second time, she can be called primigravida (or gravida 1).

iii. Multigravida: indicates a woman that is or has been pregnant for at least a second time (gravida 2, gravida 3, etc.).

iv. Elderly primigravida: refers to a woman that conceives for the first time after she is thirty-five years old.

v. Multiple pregnancy: implies a pregnancy with more than one fetus (that is twins, triplets, and so on).

However, the focus of this study is on HRQoL of primigravidas. Empirical researches have revealed that primigravidas are in a high-risk group (Danish et al., 2010). Danish, Fawad and Abbasi (2010) examined pregnancy result in primigravidas focusing on comparing booked and un-booked patients. The result showed that out of the three hundred and twenty-two cases examined, fifty-two patients were booked and two hundred and seventy patients were un-booked. Moreover, the extent of instrumental childbirth in un-booked patients was 87.5% which is higher than 12.5% recorded for booked patients. Perinatal mortality was observed to be more in un-booked patients when compared with booked patients. The researchers concluded that primigravidas are high-risk patients and all-encompassing antenatal care should be made available to this category of patients so that they can enjoy a better maternal and baby outcome. Primigravida anticipates her first experience of childbirth to be scary extremely hard and laborious (Oweis & Abushaikha, 2004).

Pregnancy entails two main changes, which are psychological and physical changes. It is important to have the knowledge of these changes and how they are connected when offering any assistance relating to the pregnant woman's health because it creates different clinical results in individuals (Davis-Floyd, 2004; Gottlieb, 2017). The physical changes that manifest in pregnancy which affect the biochemistry, anatomy of organs and systems should be examined. It can worsen pre-existing ill-health or incite illness that influence the quality of life (Lopes, Prochnow & Piccinini, 2010). Aarts and Dijksterhuis (2000) stated that though pregnancy is pleasant, women may also encounter uncertainties as well as confusions conerning her current status as a would-be mother and her life style. This can subsequently prompt her to re-examine and modify many of her behaviour as well as her nutrition. Ahmadi et al. (2014) assessed HRQoL and primigravidas. It was a

correlational investigation of conception by assisted reproduction technologies (ARTs) and natural conception. The result from the study revealed that HRQoL improved in primigravidas by either method. Women who pass through ARTs indicated better quality of life from this first successful experience, compared with women who turn mothers through natural conception.

Studies revealed that sleep disorders increased complications like prolonged labour, cesarean section, depression during pregnancy and after child birth (Postpartum blues) including having unfavourable impact on families and the community (Lee et al., 2004; Kamysheva et al. 2010). Every year, about five hundred thousand women die as a result of health challenges in the course of pregnancy, delivery or six weeks after child birth. To prevent undesirable events during and after pregnancy, antenatal care (ANC) has been acknowledge as the most essential aspect of maternal and child health services to identify pregnancy related problems in the early period (WHO, 2010). Pregnancies with higher probability of complications are refered to as "high-risk". This does not imply there will be complication. Factors that may enhance the probability of having problems during pregnancy are: being underweight or overweight, very young age or older than 35, and previous health issues. Moreover, the health status of pregnant women before they are pregnant such as having diabetes, high blood pressure, cancer, HIV etc. and being pregnant with two or more offsprings may actually strengthen the possibility of problems during pregnancy.

Besides, health issues, like preeclampsia or gestational diabetes, may develop during a pregnancy that makes it high-risk (American College of Obstetricians & Gynecologists, 2013). Prevalent signs and problems of pregnancy are: waist pain, tiredness, constipation, edema (Swelling), pain in the back and random, infrequent and most time hurtless contractions that happens many times daily. Other symptoms are increased urinary frequency, urinary tract infection, hemorrhoids (piles: swollen veins at or inside the anal area), heartburn, nausea and regurgitation, striate gravid arum, stretch marks as a result of pregnancy and tenderness in the breast (Vazquez, 2010; American College of Obstetricians & Gynecologists, 2013).

Having a balance diet is important during pregnancy as this ensure healthy development of the fetus. The type of meal taken during pregnancy differs from the one taken in non-pregnant state, because energy requirement increases and there is also an increase in specific micronutrient requirements. Pregnant women must eat balanced diet during pregnancy (Ota, Hori, Mori, Tobe-Gai & Farrar, 2015; American College of Obstetricians & Gynecologists, 2013).

2.2.2: Stages of Pregnancy

The stages or phases of pregnancy are explained in three-month periods refered to as trimesters. Every trimester lasts between twelve and thirteen weeks. During each stage of trimester, specific changes occur in a pregnant woman's system.

A. First Trimester: Changes Pregnant Women Experience (Week 1-12)

The first trimester is from week one through to week twelve. Conception occurs when the sperm fertilizes the egg (American College of Obstetricians & Gynecologists, 2013). The first trimester tends to possess the highest likelihood of having miscarriage that is natural death fetus. A pregnant woman will experience a lot of symptoms during her first trimester as she adjust to the hormonal changes of pregnancy which affect almost all organ in her body. The symptoms are: tender and swollen breast, extreme tiredness, stomach upset that may be accompany with throwing up, constipation, cravings or distaste for some food, mood swings, weight loss or gain, headache, heartburn and need to pass urine more often (Melissa, 2016).

The development of the baby as the the first trimester ends reveals that the nerves and muscles starts to function collectively, the outter sex organs revealed the fetus sex, that is, if it is male or female, eyelids close to guide the eye that is developing, the growth of the head is slowed and the fetus in the womb is approximately three inches long. As the baby changes, the pregnant woman might need to make change to her daily routine. Majority of the discomforts experienced by pregnant women disappear as the pregnancy progresses. A study carried out among nine hundred and sixteen Swedish pregnant women who are in the first trimester. Result revealed that women below twenty-five year have high risk of

anxiety signs. They established that anxiety signs in the course of pregnancy increase the degree of caesarean section selection (Rubertsson, Hellistrom, Cross & Sydsjo, 2014).

B. Second Trimester: Changes Pregnant Woman Experience (Week 13 – 26).

The second trimester starts from the 13th week and ends in 26th week. Movement of the fetus can be felt around the middle of the second trimester. At 26 weeks, more than ninety percent of babies can live outside the womb if supported with excellent medical attention. At this stage, just as some symptoms are disappearing, some fresh and more prominent changes comes up. Some of these changes are: aches in the body like abdomen, thigh and back pain, stretch marks appearing on thigh, abdomen or buttocks, skin surround the nipples becomes darkens. Other changes include abdomen itching, a line appears on the skin that runs from the belly button to pubic hairline, palm and soles of the feet, carpal tunnel syndrome also refered to as tingling hands, and ankles, fingers and face swelling (American College of Obstetricians & Gynecologists, 2013).

At this stage, the baby's musculoskeletal system development pregresses, formation of the skin begins and is almost translucent, feathery hair called lanugo covered the fetus and vernix and meconium, a waxy protective coating, grows in the intestinal tract of the fetus. Other developments in the baby include fingernails, toenails eyebrows and eyelashes formation, the fetus can scratch itself, can swallow and can hear. The fetus starts to suck with the mouth and is about four to five inches long, weighing about three ounces. The fetus is more active and has a normal sleep cycle (Melissa, 2016).

C. Third Trimester Physical and Emotional Changes in Pregnant Women (Week 26-40)

The last stage of pregnancy is the third trimester. Discomforts that were experienced in the second trimester will probably persist while some new ones emerge. As the fetus develops, and exerts increased pressure on the internal organs, the mother may experience more frequent urination and difficult breathing. Some new body changes noticed at this stage are: heartburn, shortness of breath, swelling of the fingers, face and ankles, hemorrhoids, tender breast which may leak watery pre-milk called colostrum. Other noticeable changes are navel may protrude, sleeping may become difficult, the baby

"dropping" or moving lower in the abdomen and contractions which is a symptom of false or real labour (Department of Health and Human Services, 2010; American College Obsteriticians & Gynecologists, 2013).

At 32 weeks of gestation, the development of the fetus progresses: the fetus's bones are soft but completely formed, increase in movements and kicking of the fetus, the eyes can open and close. The fetus's lungs are not fully developed, however practice "breathing" actions occur. The fetus's body starts to reserve important minerals like calcium and iron, lanugo (fine hair) starts to fall off. At this stage the fetus is adding about ½ pound per week, weighs about four to four and half pounds, and is about fifteen to seventeen inches long. By the 37th week, the baby is full term and baby's organs are able to operate indepedently. Moreover, as the mother's delivery date approaches, the fetus may change into a head-down position for delivery, the cervix of the mother turns thinner and softer in a process called effacement that assists the cervix open during labour. Average birth weight ranged from six pounds two ounces to nine pounds two ounces and average length is between nineteen and twenty-one inches long. Majority of full-term babies are in these ranges, although healthy infants are delivered having many varying sizes and weights (Melissa, 2016).

A study carried out among one hundred and sixty Iranian expectant mothers in the last trimester, indicated a remarkable correlation between fear of childbirth as well as general anxiety. Primigravidas level of anxiety was higher in twenty-eight and thirty-eight weeks of pregnancy than parous women (Alipour, Lamyian & Hajizadeh 2012). A similar study conducted among six-hundred and sixty Turkish expectant mothers in the last trimester, indicated a remarkable correlation between general anxiety and fear of childbirth. Greater scores of fear of childbirth were reported among primigravidas than parous women (Koruku, Firat & Kukulu, 2010). In addition, a descriptive survey was carried out among 560 gravid women in the third trimester. Their ages ranged between 17 and 46 years and result revealed twenty-five percent of childbirth fear among participants. It was observed that the danger factors as well as timing of heightened anxiety in the course of the progression to motherhood vary in expectant mothers (Hall, Stoll, Hutton & Brown, 2012). Regular checkup is essential during pregnancy. This reliable care will assist the

pregnant woman as well as her baby to be in good health, and prevent complications during delivery. The important of prenatal care or antenatal care during pregnancy for pregnant women cannot be overemphasized.

2.2.3. Prenatal /Antenatal Care during Pregnancy

Prenatal Care is also known as Antenatal Care. The two terms (prenatal care and antenatal care) can be used interchangeably. Antenatal care is a broad term that explains medical as well as social practices undertaken during pregnancy. Prenatal care is the medical checkups and screening tests that assist to maintain the health of the pregnant woman including her baby during pregnancy. It likewise entails counseling and education on the way pregnant woman can address various aspect or stages of her pregnancy (American College Obsteriticians & Gynecologists, 2013). In order to reduce problems for the pregnant women and their babies a functional continuity of care alongside available, effective high standard care prior to as well as throughout pregnancy, labour and after child birth is essential. It also relies on the supports that exist to assist expectant mothers reach services, especially when there are complications (Tinker; Hoope-Bender; Azfar; Bustreo & Bell, 2005).

Prenatal care improves pregnancy outcomes. Moreover, Antenatal Care (ANC) connotes care prior to birth which entails screening, counseling, education including treatment to oversee and to improve the well-being of the pregnant woman as well as her fetus. Antenatal care is the care that a woman gets in the course of pregnancy and it assists to ascertain healthy outcome for the woman as well as newborn (WHO, 2003). Antenatal care is also an avenue to encourage the utilization of trained personnel during childbirth and healthy behaviours such as early postnatal care, breastfeeding and planning for spacing of pregnancy. When pregnant women make use of ANC services pregnancy-related problems that can influence pregnancy negetively are detected on time. This helps in preventing fetal death, pregnant women ill-health and reduces maternal mortality.

Mendelevich (2001) describes the occurrence of perinatal worry and the types of similar worry, which are generalized physically. It was described as when an expectant mother can scarsely endure the physical changes that occur during pregnancy, worry about the

fetus and it well being, worry about the responsibilities associated with nursing the infant, fright of the labour procedure, worry about feeding the infant and psychopathological. All-encompassing antenatal care possesses the potential to minimise maternal mortality. However, majority of pregnant women do not possess the financial capacity to afford antenatal services (Sambo, Abdulrazag, Shamag & Ibrahim, 2013).

Antenatal clinics are programmed to address a comprehensive range of topics, classes may differ moderately based on whether the pregnant woman select private or public classes however a common example of subjects involve: healthy living during pregnancy, preparing for labour and child birth and what to anticipate during child birth, breathing exercise, healthy eating, information about exercise and maintainng fitness during pregnancy. Moreover coping with child birth and information on pain reduction, how to relax and stress relief methods, caring for infant, infant health, coping with emotions during pregnancy and health after birth are other issues discussed at antenatal classes. (Adekoya, 2009). An essential component in this continuity of care is efficient ANC. The objective of the ANC programme is to get ready for child birth as well as motherhood and at the same time avoid, detect, relieve, or cope with the three forms of health challenges in pregnancy that influence pregnant women including their babies:

    i.   pregnancy issues

    ii. previous illness that aggravate in the course of pregnancy

   iii. impacts of lifestyles that are not healthy.

The objectives of quality antenatal care are to make sure that pregnancy generates no trouble for the mother as to maintain the health of the fetus throughout the antenatal duration. Moreover, the avanue need be seized to give health training. These objectives can normally be attained as follows:

    i.   Antenatal care should keep a specific scheme.

    ii. Antenatal care should be problem focused.

   iii. Establish danger factors from the prior obstetric record.

   iv. Probable complications as well as danger factors that can happen at certain gestational age should be verified at these visits.

v. The fetal status should be constantly examined.

vi. Healthcare enlightenment should be given.

Every details pertaining to the pregnancy should be recorded in a patient-held Maternity Case Records. The antenatal record may also acts as a referral letter in case a patient is referred to the subsequent stage of care and hence acts as a connection between the various stages of care along with the antenatal clinic and labour unit (Better-care, 2020).

Antenatal care preferably begins not less than three months before a woman start attempting to conceive (Madell, 2015). Highly qualified midwives and nurses usually take antenatal classes. Classes cover a variety of different topics. During each class, the midwife discusses particular subject, the women are allowed to ask questions. The health personnel can use videos to explain some aspects of pregnancy and child birth. These classes are mostly interactive and they can take them through active exercises. Each woman may be given opportunities to share any challenges or fears. They can interact with other pregnant women in the class.

Majority of prenatal classes are usually informal and they are programmed to be lively and leisurely. Clinics normally run every week between one and two hours. Many health challenges of pregnant women are aviodable, detectable, and curable if they attend prenatal care consistently. Women who register for prenatal care at the early stage of their pregnancy create adequate time for crucial and possible interventions, early detection of concealed issues and prevention of complications (Federal Ministry of Health, 2014). It is also used to avoid, detect and cure sexually transmitted infections and work on the removal of new Human Immune Deficiency Virus infections among infant through supplying integrated quality avoidance of mother to child transmission (WHO, 2013).

Antenatal care also supplies women with relevant advice and information concerning having a healthy pregnancy, safe childbirth, infant care, encouraging of exclusive breastfeeding, postnatal recovery along with education on making decision about subsequent pregnancies so as to experience better pregnancy results. An efficient antenatal care programme relies on well-trained health care personnel in an active health system. The health system must provide referral functions and has sufficient reserves with

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laboratory assisstance. ANC enhances the health and survival of offerings precisely by decreasing stillbirths and indirectly by making available an initial opportunity for the woman to have contacts with health care at a crucial point in the continuity of care (Lincetto, Mothebesoane-anoh, Gomez & Munjanja, 2010). The advantages of antenatal care exceed mortality reduction alone, and because the cost is relatively low, it package is among of the most affordable of any public health programme (Adam, Lim, Mehta, Bhutta, Fogstad & Mathai, 2005).

The advantages of ANC programme for primigravidas' pregnancy outcomes can not be over emphasised (Osungbade, Shaahu & Uchendu, 2011). ANC improves timely diagnosis including management of health issues that might be risky to the mother as well as the fetus. Antenatal care by profeesional health care providers' provides birth preparedness, infection screening, malaria treatment, reduction in the occurrence of perinatal sickness as well as death, distinguishes danger signs during pregnancy and prepares to manage child birth complications using prompt treatment as well as referrals (Osungbade, Shaahu & Uchendu, 2011). It also minimises health issues during pregnancy like hypertension, ectopic pregnancy, anaemia, eclampsia, excessive bleeding, premature labour and delivery and obstructed labour (Asmamaw, Alemu, Alemu & Unakal, 2013). Specifically, a medical survey of prenatal services in Nigeria, observed improved maternal results among women who concluded ANC in contrast to women who did not, however it might not directly minimise the danger of death (Onoh, Umeora, Agwu, Ezegwui, Ezeonu & Onyebuchi, 2012).

Literature have suggested that for the prenatal coverage in developing nations to meet up with its spread in advanced nations, the antenatal programmes ought to be costless as well as assessible particularly in non-urban areas (Lincetto et al., 2010; Arthur, 2012) with not less than one antenatal service in each fifteen km area (Kyei, Campbell & Gabrysch. 2012) and staffed with various healthcare professionals (Yohannes, Tarekegn & Paulos, 2013).

World Health Organization recommendation for antenatal visit for mothers who have healthy pregnancy with the initail attendance in the first trimester (normally from 8 to 12 weeks however not beyond 16 weeks) and at 24 to 26 weeks, 32 weeks and 36 to 38 weeks

(Villar, Bergsjo,Carroli & Gulmenzoghi, 2003). Every visit must involve appropriate care that addresses the woman's complete situation and stage of pregnancy. If illness or possible challenges that can influence the pregnancy including the infant are confirmed, the number and time of visits is increased. Distinct or goal oriented ANC programmes make available focused evidence-based interventions for every women, undertaken at some crucial stages during pregnancy (Carroli, Villar, Piaggio, Khan-Neelofur, Gulmezoglu & Mugford et al. 2001).

Priority steps for promoting antenatal care

Some of the steps that can be taken to promote antenatal care are listed below:

i. Enhance characteristics of ANC programmes

    a. Modify pre-service as well as in-service education for ANC personels to incorporate the important constituents and additional skills expected

    b. Enhance logistics and supplies

ii. Establish connections with alternative programmes, particularly predominant vertical interventions, like HIV and malaria

iii. Harmonize programmes using efficient collaboration

iv. Minimise hinderances to reaching care and communicate with women not utilising care

v. Improve the application of data to supervise as well as enhance ANC coverage and quality. (Lincetto et al., 2010).

Proper health care during pregnancy is essential for the health of the mother and the growth of the fetus. Pregnancy is an important period to enhance healthy attitudes including child rearing abilities. An effective ANC connects the woman as well as her household with the established health institution and enhances the probability of making use of trained personnel during childbirth. Insufficient care at this period breaks a crucial connection in the continuity of care, and impacts the mothers as well as their newborns (Lincetto et al., 2010).

The characteristic of antenatal care recieved affects women's health-care seeking behaviour (Mannava, Durrant, Fisher, Chersich & Luchters, 2015). Efficient communication strategies would assist to enhance healthcare services. Receiving best quality ANC is a crucial determinant of accomplishing four or more ANC clinics (Muchie, 2017). Inefficient ANC served as an impediment for expectant mothers to attend ANC (Tolefac, Halle-Ekane, Agbor, Sama, Ngwasiri & Tebeu, 2017) and it also affect good habits of mothers and their household (Lokugamage & Pathberiya, 2017). Antenatal care is an important period to enhance healthy habits as well as child rearing abilities (Tafere, Afework & Yalew, 2018)

Tafere et al. (2018) in their investigation stated that out of eight hundred and twenty-three gravid women who finished follow up, just one third pass through required quality of ANC services. The possibility of delivering at health establishment among expectant mothers who pass through required ANC quality programme was approximately 3.38 times greater than those who took ANC quality programme that are unacceptable. The researchers discovered that the quality of ANC programme delivery in public health establishment was endangered. Establishment of quality ANC programm has a great role in enhancing institutional delivery. Thus, all the stakeholders in the health sectors especially government and non-governmental agencies should work together to enhance maternal health and accessible education on antenatal care to promote pregnant women as well as their babies well being.

Despite the prevalent use of antenatal care, its efficacy in low-resource areas is stll vague (Carroli, Rooney & Villar, 2001). Various observational studies report that antenatal care has favourable effects which include reduction in maternal mortality and favourable pregnancy results (Dowswell, Carroli, Duley, Gates, Gulmezoglu, Khan-Neelofur & Piaggio, 2010). Proof of the efficiency of antenatal care is crucial for decision-makers to intiate adequate policies and approaches and asign appropriate resources for their execution. Recently there is agreement that women's satisfaction with antenatal care is established by the connection between their expectations and the characteristics of the health care they get (Matejic, Milicevic, Vasic & Djikanovic, 2014). In practice, expectations can be described as appropriate health care, desired health care or anticipated

health care, and at times people do not have specific expectations (Omar, Schiffman & Bingham, 2001). The expectant mother's beliefs about the composition, kind and quality of care in particular health care service make them seek for medical attention in such hospital when they are pregnant.

Prenatal care influence health-care seeking behaviour of woman in the course of childbirth. The reports from National Family Health Survey 2 showed that women who visited prenatal clinic beyond two times were more than twice likely to get skilled assistance for home childbirth. The major objective of prenatal care is to establish a healthy mother and child after childbirth. Thus, it is better for a pregnant woman to be monitored by an obstetrician right from the early stage of the pregnancy. Antenatal care assists in reducing health challenges during pregnancy as well as increases the probability of a healthy and safe delivery (Madell, 2015).

2.2.4: Health-Related Quality of Life (HRQoL)

HRQoL is a composition of two related concepts, which are health and quality of life (QoL). As renowned researcher in the field, Ware and Sherbourne (1992) defined HRQoL as to differentiate the latest multidimensional conceptualization of health from the old (that is defining health in relation to disease and death), the concept quality of life was presumed. It became popular to group all approaches that describe health further than traditional pointers of biological operations into one kind of quality of life approaches. Nevertheless, quality of life as traditionally described is much broader term when compared with health. Quality of life includes satisfaction with job, quality of housing and neighbourhood, health, standard of living and other factors. Maximizing the health aspect (that is health status) of quality of life is the major aim of the health care system. Thus, the concepts HRQoL and health (when described as physical, mental and social well-being) can be viewed as synonyms.

Health is among the most esteemed components of living, as well as life contentment and well-being. Health is the degree of metabolic and functional capacity of an individual. Moreover, it is the capacity of individuals to adjust and self-manage when encountering mental, physical or social changes (Huber, Knottnerus, Green, Vander Jadad, Kromhout

& Smid, 2011). Health is a fixed term that highlights personal and social resources, as well as physical abilities. Health is beyond non-existence of illness, it is an asset which makes individuals to achieve their desires, meet their obligations as well as deal with the environment so as to enjoy a fruitful and profitable life (Breslow, 2006). In this regard, health enables individual and social economic growth vital to well-being.

Health is an essential component of general quality of life (QoL). QoL is a comprehensive multifaceted term which normally entails subjective assessments of favourable together with unfavourable aspect of life. WHO acknowledge the importance of assessing and enhancing quality of life of individuals (WHO, 2005). QoL is an important indicator and includes several aspects such as physiological and functional aspects (Conger & Moore, 2002). QoL comprises more than activities of every day living, state of health, illness type or financial capabilities because it focuses on complete psychological, spiritual and social being (Albrecht and Devlieger, 1999). QoL measures have become an essential and needed part of health outcomes appraisal. Assessment of QoL provides a crucial avenue to identify life impact health care, where cure is impossible. Literature revealed that reduction in vitality leads to reduction in QoL during a normal pregnancy (Ayas, White Manson, Stampfer Speizer, Malhotra et.al 2003). Health as an important aspect of quality of life is described as HRQoL.

QoL is a broad term that integrates all areas of human's existence. HRQoL is a part that relates to the health domain of that existence only. HRQoL is complex term that entails the psychological, physical and social functioning related with a disease or its cure. Nevertheless, HRQoL can as well be used beyond the context of illness for instance, it can be used as a subjective measure in population studies. Higginson and Carr (2001) highlighted the following reasons for using HRQoL measures in daily health care:

    i.   Identify ing and prioritising problems
    ii.   promoting communication
    iii.   testing for hidden health issues
    iv.   promoting shared clinical decision-making
    v.   observing differences or reactions to treatment

HRQoL is a complex concept that involves components associated with mental, physical, social and emotional functioning (Ferrans, 2005; Fryback, 2010). HRQoL offers a comprehensive perspective that comprises psychological, physical and social domains, which are basic components to evaluate quality of life (Zandonai, Cardozo, Nieto & Sawada, 2010). HRQoL exceeds direct appraisal of people's life expectancy, health and sources of death however it targets the influence status of health exacts on QoL (Healthy People, 2020). HRQoL is also reflected in each person's evaluations of the influence of their health on their social functioning within their immidiate environment. Moreover, HRQoL is a complex term used in public health address to a person or group perceiving mental and physical health condition over a period. QoL perform a relevant function in the pregnant women's health because it evaluates aspects of psychological well-being, physiological functioning (the capacity to carry out physical actions), subjective symptoms (bodily fatigue and pain), cognitive and social functioning (Ware, Kosinski, Bjorner, Turner-Bowker, Gandek & Maruish, 2007).

Studies on QoL and HRQoL have increased in national as well as international literatures. The self-reported HRQoL is a suitable outcome measure in assessments of maternal health interventions because this measure is frequently used in health economic assessments (Drummond, Sculpher, Claxton, Stoddart & Torrance, 2015) and can cover health incidences that are scarcely fatal (Thacker, Stroup, Carande-Kulis, Marks, Roy & Gerberding, 2006). Calou, Pinheiro, Castro, Oliveira, Aquino and Antezana, (2014) carried out a study on HRQoL of expectant mothers and related factors. It was an integrative review that used WHOQOL-BREF and Short Form -12 Health Survey (SF-12). They reported that the existence of nausea, vomiting, pain, depression, earlier age, nonexistence of partner and low education adversely influence pregnant women's quality of life. Also, involvement in physical activity as well as having social support in pregnancy improves pregnant women life quality. Even in uncomplicated pregnancies, the emotional as well as physical challenges that come with pregnancy can change women's capability to carry out their different roles thus, influencing their QoL (McKee, Cunningham, Jankowski & Zayas, 2001). Casarin, et al. (2010) empirical work on methodical analysis of quality of life in pregnancy, reported that 21 selected articles

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examined maternal quality of life including fetal quality of life during the gestational period and later childhood and adult life.

In the opinion of Raphael, Brown, Renwick and Rootman (1997), physical health quality of life encompassed exercise, physical health, nutrition, clothing, personal hygiene and overall characteristic. The medical or biological framework of well-being mainly examines the physical situation and functioning status of an individual. It is commonly identified as physical HRQoL. Kane (1998) examined the importance of physical health status features on quality of life. Physical status of health deals with visible well-being and absence of pain, illness, disease, injury, discomfort and disability.

Social health of quality of life examines the way individuals viewed their personal experiences in term of personal relationships, sexual activities, social supports and the meaning that their situations have for them at a particular time in their lives. Possessing a responsibility in a community with connections to a social system is essential for each person's quality of life (Brink, 1997). Considering such things as social environment, physical assets, and especially, the significance that each person attached to circumstances and occurrences they encounter, are important variables in social domain HRQoL (Bond, 1999).

Forger, Ostensen, Schumacher and Villiger (2005) examined the effect of gravidity on health related quality of life in gravid women having rheumatic diseases. It was evaluated prospectively with the SF-36 health survey. Impaired physical domain and increased bodily pain were observed in healthy women in the third trimester of gravidity. They observed that pregnancy decreased physical activities in healthy women but had no influence on emotional and mental health even when diseases worsen. In addition, Ramirez-Velez (2011) undertook a cross-sectional research on pregnancy and HRQoL. The aim of the research was to establish as well as evaluate the factors that can influence HRQoL in the course of pregnancy. The sixty-four nulliparous gravid women in their middle trimester who were involved in the research had greater health related quality of life result in the vitality aspect, accompanied by mental health and overall health. The physical role together with emotional role aspects has the least result.

Furthermore, the decreased HRQoL experienced routinely by expectant mothers can partly as a result of the effect of vomiting as well as nausea in pregnancy, which affects 70-80% of pregnant women (Jewell & Young, 2003). There are different common instruments available to evaluate both quality of life and health related quality of life. For instance, Olapegba (2009) developed a generic perceived quality of life measure for Nigeria culture. In this study, the researcher adopted World Health Organization Quality of Life-Bref (WHOQOL-BREF) to assess HRQoL of pregnant women. This instrument has been used in Nigeria to assess quality of life among women (Atunwa, 2018).

2.2.5: Health-care Seeking Behaviour and HRQoL

The importance of health-care seeking behaviour (HCSB) and antenatal care (ANC) on HRQoL of primigraida cannot be overestimated. Health-care seeking behaviour referred to an individual's act of utilizing a specific health service. This involves factors like the manner ailments are viewed and responded to, as well as which kind of and time healthcare facility are used (Loue, 2013). HCSB has manifested as a mechanism to resolve observed poor health by taking curable steps (Sreeramareddy, Shankar, Sreekumaran, Subba, Joshi & Ramachandran, 2006). A woman's resolution to obtain health care is not an isolated event, but, it is a combine outcome of her unique demands, social conditions, attitudes of healthcare officials including the place of facilities (Ferdous, Das, Ahmed, Farzana, Kaur et al. 2013). Seeking health care treatment as a curative technique is the appropriate method to minimise the dangers of pregnancy for the woman as well as her fetus.

HCSB is referred to as steps undertaken by individuals who viewed themselves as having health challenges or to be sick for the purpose of getting the right remedy (Wade & Halligan, 2004). Health-care seeking behaviour during pregnancy can be promotive, preventive, and curative. The most well documented form of health-care seeking during pregnancy is ante-natal care, which joined many types of care in a formal clinic/hospital setting and also enlightens pregnant women on self-care activities to carry out at home (Ezeama & Ezeamah, 2015). Antenatal care (ANC) is a connective activity between the gravid women and the health professioners like midwives, nurses and doctors

(Atekyereza, et al., 2014). Expectant mothers' visit at healthcare facilities gives health personnels great avenue for giving psychological attention including enlightenments to them (Bastani, Heidarnia, Kazemnejad & Kashanian, 2007).

Antenatal care is principal to the actualization of maternal health objectives. According to WHO (2012), it is crucial that every child delivery is taked by trained medical experts, as prompt attention together with adequate treatment can establish a significant impact at this important period and improve pregnant women health related quality of life . World health organisation's new prenatal care framework added to the time of visits gravid women has with medical professioners during her pregnancy from 4 to 8 (minimum contact). It suggests that expectant mothers should have their initial antenatal visit in the initial 8 to 12 weeks but not later than 16 weeks with consequent contact taking place at 24 to 26 weeks, 32 weeks and 36 to 38 weeks' gestation (WHO, 2016). This will help to enhance expectant mothers' HRQoL. In the course of these visits, expectant mothers are vaccinated against tetanus to safeguard the fetus, examined and given treatment against ailments like malaria, anemia and sexually transmitted infections. Also, at childbirth, labour should be monitored by health experts in a reliable health setting, furnished to deal with high-risk childbirth and also make available post-natal care. It is these as well as other adverse conditions together with birth readiness that required to be provided for an effective ANC outcome (Tetui, Kiracho, Bua, Mutebi Tweheyo & Waisawa, 2012; Atekyereza, et al., 2014). Many inderances to effective utilization of health care facilities most especially ANC programmes have been reported

Rahman (2000) revealed that a woman's determination to register for ANC in a specific health care setting is the combine outcome of individual necessity, social forces, attitudes of health care provider, the site of services and the doctors' unofficial practices. Poor health-care seeking behaviour appeared to add to poor determent and curbing of morbidity and mortality associated to health situations (National Demographic and Health Survey, 2013). Musoke, Boynton, Butler, and Musoke (2014) highlighted numerous factors that can determine the choice of health service providers that women use. These include factors associated with the potential providers (such as area of expertise and quality of service) and those that relate to the women (like age, gender, financial state including educational

level). Such factors can affect access to health care even when services do exist in the community. Literature revealed that act of seeking health care can make some pregnant women visits infomal medical mediums and traditional healers. These channels should be discouraged, but rather women should be motivated to choose formally trained health workers or government health facilities (Ahmed et al. 2001).

Aktar, (2012) studying finding showed that financial insolvency is a major motive for not attending health-care services from qualified providers during pregnancy. Good antenatal care starts with early registration which is generally assumed to enhance maternal and total result (WHO, 2011). Even with the benefits of early registration late registration is prevalent in Nigeria (Osubor, Fatusi & Chiwuzie, 2006). Prompt and relevant prenatal care can be utilised to enhance pregnancy outcomes and consequently decrease maternal morbidity and death (Aluko& Oluwatosin, 2008). The preference of where to acquire health-care is based on some conditions such as presence of trained health personnel in the community, type of services, the price for treatment including mode of payment (Chuma, Gilson & Molyneux, 2007).

A research study conducted by Liu, Xue, Qian, Yang, Yang, Geng & Wang (2019) on health-care seeking behaviour among Chinese gravid women. The researchers selected pregnant women using stratified-random sampling from various Guangdong hospitals, in China. The researchers used regression analysis to analyse the data collected from gravid women looking for health care at primary, secondary or tertiary health settings. The outcome revealed that five hundred and thirty-seven of the participants use primary hospitals, four hundred and thirty-seven use secondary hospitals, and four hundred and nineteen use tertiary hospitals. Women who attend primary hospitals were probably living near the hospital, live in rural area, and had low education. Many factors were remarkably related with registration at secondary versus primary hospital. The woman's sensed the importance of seeking maternal healthcare, the woman's decision on delivery hospital or urban living. Characteristics related with choice of tertiary versus primary health care were: previous experience of pregnancy problems, travelling to the hospital by public transport, living in urban area or a planned pregnancy.

A research carried out among pregnant women in Nigeria revealed that pregnant women normally register for prenatal care late as a result of the assumption that no advantage exist in early registration. They perceived antenatal care as primarily remedial rather than preventive measure and this assumption has serious effect on their health-quality of life (Ndidi, & Oseremen, 2010). Many pregnant women do not attend ANC until their delivery period (Oladipo & Osiberu, 2009). Antenatal seeking behaviour of women in Nigeria remains poor and stands as a great problem to maternal death reduction in the nation (Osubor et al. 2006; Onoh et al., 2012). Socio-economic factors like low education, general standard of living, poverty, area of residence (urban/rural) have adverse influence on antenatal care seeking behaviour among expectant mothers (Raj, 2005).

Several studies have revealed that health related knowledge does not turns out to improve the use of health care facilities among expectant mothers (Zamawe, 2013; Akaba, Otubu, Agida & Onafowokan, 2013). In Nigeria, the cost of prenatal care remarkably moderates the capacity of pregnant women to attend ANC (Sambo, Abdulrazaq, Shamang & Ibrahim, 2013). Karoline, Jackoniah and Termmerman (2006) studied the impression of the expectant mothers on the sources of their challenges. A total of eight hundred Kenyan expectant mothers were selected. The outcome of the research indicated that mother's general knowledge of pregnancy associated challenges was poor. This is because just twenty-seven percent of the respondents had the impression that the health challenges experienced in gravidity is pregnancy-associated and not an affliction from evil spirits or that they are completely unaware of the reason. Thus expectant mothers need good health seeking behaviour to enhance their health conditions (quality of life) during gravidity as well as after chidbirth.

Egbuniwe, Egboka and Nwankwo (2016) in a related study on health seeking bahaviour among expectant mothers who use primary health care settings in rural areas of Anambra State for ante-natal clinic revealed that 81.82% of expectant mothers who attend antenatal clinic suffered from swelling of face and feet, malaria extreme fatigue, and nine percent experienced malnutrition. In addition, some participants (47.27%) had the impression that the health challenges they experienced are gravidity associated while a remarkable number noted that the sources of their health issues were an outcome of spell from deities.

Resolution of husbands and financial earnings were perceived as important factors affecting their health seeking behaviour.

Despite the fact that constituents of antenatal care have been observed to enhance pregnancy results, maternal/infant morbidness as well as death continues to exist as public health challenges in several developing nations including Nigeria (WHO, 2012). Moreover, none of the researchers reviewed carried out investigation on the HCSB and HRQoL among pimigravida in Ibadan. This spurs the need for examining the predicting capacity of health-care seeking behaviour on HRQoL among primigravidas in Ibadan.

2.2.6: Sleep Quality and HRQoL

Sleep is a universal phenomenon undertaken by everyone. In order words, sleep is among the primary requirements of every living being. It is a functioning period during which some essential processing, renewal and strengthening happens (National Sleep Foundation, 2020). Sleep is an absolutely complex process which exceeds more than merely closing one's eyelids. It is a functioning condition of unconsciousness created by the body where the brain is in a relative condition of rest and is responsive mainly to inner stimulus (Brinkman & Sharma, 2020).

Sleep quality is a fundamental condition for health. Sleep is an important as well as essential behaviour that is influenced by some physical or pathological variations during gravidity. National Sleep Foundation highlighted the following as the key determinants of sleep quality;

(i) Sleeping more time while in bed (at least 85% of total time),

(ii) Falling asleep in 30 minutes or less,

(iii) Waking up just once in the night and,

(iv) Being awake for not more than 20 minutes after initially falling asleep.

Good sleep quality is related with a variety of favourable results including reduction in daytime sleepiness, good health, better well-being and good psychological performance

(Harvery, Stinson, Kathleen, Whitaker, Moskovitz & Harvinder, 2008). Sleep quality of expectant mothers influences their fetus' development. Sleep quality is also influenced by the biological changes of pregnancy. Actually, sleep disorders were observed in 78% of pregnant women. Therefore, measures that will ensure regular sleep should be initiated at the early stage of pregnancy.

Pregnant women require at least six hours of sleep daily. Literature revealed that the probability of normal delivery in pregnant women whose sleep patterns were interrupted decreased by up to four or five times. The influence of sleep on the fetus in pregnant women cannot be overemphasized. The major signal of this is the progesterone hormone, which is required to maintain the pregnancy. The reason for the increase in sleep requirement in gravidity, particularly in the early stage, is because the secretion of progesterone increases during sleep. This leads to extreme sleepiness and a persistent feeling of tiredness during the day. Initiating good sleep patterns during pregnancy is mostly efficient, not solely physically but also psychologically. A good sleep pattern is essential in the preparation for childbirth and keeps the fetus from the psychological strains and pressures of pregnancy (Evy Baby, 2020).

Inadequate sleep is a concern for many people particularly primigravidas. Sleep deprivation is associated with poor health; however, adequate sleep is critical for optimal daytime functioning (Banks & Dinges, 2007). There are proofs that inadequate sleep can cause more accidents and neurobehavioural disabilities such as reduced working memory, depressed mood and attention lapses (Haakma & Beun, 2012; Lombardi, Folkard, Willetts & Smith, 2010). Physical health is greatly influenced by poor sleep quality. The primary sources of sleep deprivation are many. It can be as a result of factors like medical issues, sleep disorders, social or occupational demands and environmental situations which affect sleep quality (Haakma, et al. 2012).

Poor sleep quality has a direct influence on the quality of people's lives including pregnant women. It also appears it causes increased impairment as a result of psychiatric disorders, autonomous dysfunction, car and automobile accidents, depression, early aging, kidney failure, hypercortisolemia, glucose intolerance and declined efficiency at work etc.

(Spiegel et al., 2005; Jaussent et al., 2011). Complaints by majority pregnant women during pregnancy indicated declined sleep duration and poor sleep quality (Okun, Tolge & Hall, 2014), that is mainly due to the influences of hormonal variations (Mehta, Shafi, & Bhat, 2015), frequent urination, backache and other factors during pregnancy (Shobeiri, Khaledi, Masoumi & Roshanei, 2016). Moreover, hormones are somewhat in charge of sleep-wake order. Variations in progesterone as well as estrogen propotion in pregnancy may cause sleep difficulties (Teran-Perez, Arana-Lechuga, Esqueda-Leon, Santana-Miranda, Rojas-Zamorano & Velazquez, 2012).

Most studies on sleep quality during pregnancy deduced that gravid women face more sleepless condition in the night because of several pregnancy signs and bodily changes which take place in the course of the nine months of pregnancy (Wolfson & Lee, 2005). Physical and hormonal variations that manifest during pregnancy, increase respiratory issues due to the pressure that the developing fetus creates on the diaphragm and certain challenges such as back pain, nocturia, leg syndrome effect, sleep habit including sleep quality (Pien & Schwab, 2004).

Sleep quality affects pregnant women's health and HRQoL because they are prone to encounter sleep disorders during pregnancy. Sleep deprivation and disturbances has many reactions on the human body and psychological health (Topf, 2000). Sleep disorder is a regular complaint during pregnancy and it can affect hormonal, physiological, metabolic and vascular changes, like changes in endocrine secreation such as increased prolactin and progesterone levels, increase in fetal size and movements, aperture rise, bladder distension, nausea, temperature fluctuations and stomach discomfort (Lee, 2007). Sleep disorder can be grouped into two diagnostic categories which are; dyssomnias (involving sleep apnea, insomnia and narcolepsy) and parasomnias includes abnormal sleep disturbances (involving night terror and nightmares).

People, who experience constant challenge of falling or staying asleep, or waking up too early, experience insomnia. Narcolepsy is sleeping excessively during the day with sudden sleep attacks experience. A person who has sleep apena partially stops breathing when sleeping, which creates loud snoring or poor sleep quality. Nightmares are bad dreams

experienced during REM (rapid-eye-movement) sleep while night terrors are sudden awakenings with feelings of panic that happens during NREM (non-rapid-eye-movement) sleep (Huffman, 2012).

Moreover, in the third trimester, pregnant women reported sleep disorders which was caused by fear, nausea, too much thinking, back pain, heartburn, leg cramps, inability to breath well, sadness, anxiety, and frequent urination (Bondad & Abedian, 2004). Reports from research outcomes revealed that twenty-five percent and seventy-five percent of expectant mothers in the first and last trimester encounter the challenge sleep disorder, respectively (Lee, Zaffke & McEnany, 2000). As pregnancy progresses, pregnant women experience more restless and fragmentary sleep which reduces sleep quality. Poor sleep quality is a crucial issue for expectant mothers because it has effect on physiological, cognitive/behavioural, social, as well as emotional health. Related factors influence may involve fat/glucose metabolism, inflammatory system, social/professional interactions, mental/mood conditions, cognitive functions and total HRQoL (Lee, 2007). During the first trimester of conception, time spent sleeping increases however sleep quality decreases. The duration of sleep reported by pregnant women starts to reduce from second trimester, and sleep disturbances get to the highest levels in the third trimester (Hedman, Pohjasvaara, Tolonen, Suhonen-Malm & Myllyla, 2002). In the first and last trimesters, most pregnant women report extreme tiredness. Sleep challenges and tiredness reported by pregnant women can depend on changes in the levels of hormones.

Lee and Gay (2004) revealed that when pregnant women sleep less than six hours in the night, it may lead to prolong labours and many of them may experience cesarean births. Beebe and Lee (2007) likewise reported that in the last five days of pregnancy, pregnant women experience gradual decrease in sleep quality. Most pregnant women, about ninety-seven percent, experience sleep disturbances in the last trimester of pregnancy (Sharma et al., 2004). During pregnancy sleep patterns are altered, and it can last for years after the childbirth before peaceful sleep is restored. Sleep challenges reach the peak in the early postpartum period, mostly for primigravidas (Lee et al., 2000).

In a cross-sectional study, Nicholson, Setse, Hill-Briggs, Cooper, Strobino and Powe (2006) investigated HRQoL among pregnant women attending antenatal clinic. They reported poor HRQoL in the first trimester of pregnancy in women having depressive signs. Also, in a descriptive study which involve observation, undertaken by Lacasse, Rey, Ferreira, Morin and Berard (2008) on the influence of nausea and vomiting on HRQoL in the course of pregnancy. It was observed that the existence as well as acuteness of nausea together with vomiting reduces HRQoL. Furthermore, majority of expectant mothers disclosed back pain, and this decreases their HRQoL, mainly in the last trimester (Olsson & Nilsson-Wikmar, 2004).

The subjective viewpoint of poor sleep quality is the most generally evaluated sleep disturbance during pregnancy, with sleep quality generally decreasing as pregnancy advances. Sleep continuity which is a dimension of sleep, is the level of fragmentation in a sleep time. Many indices involving sleep latency, number of wakenings and total minutes spent awake, explain it. Poor sleep continuity is common in pregnancy. Sleep is also measured by examining the duration of sleep attained during the night. Sleep duration changes across pregnancy trimesters usually declining by term. Restive leg syndrome is a neuro-sensory disorder which starts in the evening and mostly inders a person from sleeping. It can add to poor sleep continuity and quality. Restless leg syndrome is more frequent during pregnancy and reaching twenty-seven percent rates by the last trimester (Tauman, 2013). Disturbances in sleep pattern and quality during pregnancy are generally grouped as disrupted sleep quality, short or long sleep duration, poor sleep continuity (fragmentation), sleep efficiency, sleep latency and lack of sleep as daytime dysfunction.

Sleep quality declines as pregnancy progresses, particularly as characterized by poor sleep continuity (Ayrim, Keskin, Ozol, Onaran, Yildirim & Kafali, 2011). Just as certain medical illness are significant during pregnancy so likewise are sleep fragmentation together with disturbance in the course of the normal physical modifications of pregnancy. Sleep disorders during pregnancy can lead to complication. These changes which continue beyond the period of the pregnancy into the postpartum time are adequately substantial to influence quality of life. Sleep disturbance influences quality of life in a substantial way. Women with insomnia undergo great disturbance during that

phase, and those with unfavourable sleep experience the daylight effects including extreme daylight drowsiness (Kohn & Murray, 2008).

Based on systematic variations created by physical, hormonal, emotional, psychological and cognitive factors, the regular sleep pattern can be disrupted during pregnancy period, thereby causing sleep disorders (Darvish & Zarbakhsh, 2016). Right from the 12th week of pregnancy on, specifically in the last trimester of this stage (due to abdominal enlargement as a result of growth of the uterus, inflamation of limbs, etc), till two months following delivery, sleep difficulties (which reduces sleep quality) manifest in the terms of constant nocturnal wakening, reduced sleep at night and declined sleep effectiveness. More than seventy-two percent of women suffer constant night wakening during pregnancy (Gupta, Dahiya & Bhatia, 2009). Several hormones are secreted within the period of twenty-four hours, many of which are secreted in pregnancy.

Some of these hormones are prolactin, placental hormones, melatonin, growth hormone, thyroid stimulating hormone, cortisol and oxytocin. The flow of these hormones can have influence on sleep in the course of pregnancy. Sex hormones, especially estrogen and progesterone, among neurotransmitters manage their quantity in order to support adequate sleep, however immediately after chidbirth, an abrupt decrease in the quantity of progesterone as well as estrogen may cause sleep problems in many women who often experience difficulty sleeping and staying asleep, despite the fact that they are not the one taking care of the baby (Mindell, Cook & Nikolovski, 2015; Santiago, Nolledo, Kinzler & Santiago, 2001). Fatigue in pregnancy is the outcome of distruption in the pattern of sleep. Fatigue during pregnancy can influence women's capacity to bear the labour pain and natural childbirth efforts (Chang, Pien, Duntley & Macones, 2010).

It appears that variations in the sleep quality of gravid women in the last trimester of their pregnancy is the reason for decreased pain tolerance, anxiety, depression and declined regulation of their emotions, all of which can essentially influence labour result (Da - Costa, Dritsa, Verreault, Balaa, Kudzman & Khalife, 2010). Sleep disorder in the course of pregnancy is probably influenced by gestational diabetes, high blood pressure, preeclampsia, labour difficulties, prolong labour phases, premature births and intrauterine

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development retardation (Romero & Badr, 2014). Research reports shows that sleep problem is increased by psychological changes (Mindell, Cook & Nikolovski, 2015; Skouteris, Wertheim, Germano, Paxton & Milgrom, 2009). Behavioural methods have been prescribed as appropriate methods to enhance sleep quality in people with sleep problem (Hossain & Shapiro, 2002).

A meta–analysis observed decreased chances of life among people who sleep more than nine hours daily and among people who sleep less than seven hours daily solely due to cardiovascular sicknesses and cancer, especially among women (Galilicchio & Kalesan, 2009). Sufficient sleep can result in improve quality of life, physical and social health life satisfaction, performance and long life (Durmer & Dinges, 2005). Empirical studies on the relation between sleep quality and the subjective perception of sleep variables suggested that sleep quality is related with subjective assessments of the ease of sleep onset (Kecklund, Akerstedt & Axelson, 2003), Sleep maintenance, sleep duration, and early awakening (Bastien, Farlier-Brochu, Rionx LeBlanc, Delay & Morin, 2003). Futhermore, night restlessness, wondering during sleep and worry, fear or comfort when attempting to sleep are connected with sleep quality.

In addition, observed depth of sleep is essential with reduced perceived light sleep and increased perceived deep sleep and its being connected with good sleep quality. Feelings of tiredness during the day predicated poor sleep quality and alertness predicted good sleep quality (Harvey Stinson, Whitaker, Moskovitz & Virk, 2008). Evidence shows that the requirement for sleep varies between people in neurobehavioural responses to sleep restriction (Banks et al., 2007). Evidence also confirms the hypothesis which state that poor sleep quality is related with decline mental health and quality of life (Mayers, Grabau, Campbell & Baldwin, 2009). The results of Augner (2011) study revealed that subjective sleep quality has strongly negative relationship with depression score, physical signs and trait anxiety. Subjective sleep quality's relation with sleep onset latency was found to be stronger than sleep duration. Furthermore, higher depression score and long sleep onset latency were observed to be the best predictors of poor subjective sleep quality.

Accordingly, a significant factor that influences day to day activities of gravid women is sleep quality but not many researches were observed to be related to sleep disturbance in pregnancy with the well-being of expectant mothers (Yucel, et al. 2012). Facco, Kramer, Ho, Zee and Grobman (2010) carried out a research using two hundred and two pregnant women and discovered that a remarkable correlation exist between the ages of pregnant women together with their sleep quality. Also, they found that sleep quality declined with advancing gestational week. Rezaei, et al. (2013) study on quality of life in expectant mothers with sleep challenges showed that in the second trimester, the mean of sleep quality is 8.62 + 2.81 in those having sleep problems or unfavourable sleep quality. Quality of life and psychological health domain relates to sleep quality. They concluded that majority of women experience sleep disorders in pregnancy.

Moreover, the physiological and hormonal alteration that occur place in the course pregnancy increases respiratory challenges due to the pressure that the developing fetus exact on the diaphragm as well as some illness such as pain in the back, nocturia, leg cramps and restless leg syndrome affect sleep habits together with quality of sleep (Pien et al., 2004). However, Borodulina, Evensona, Mondaa, Wena, Herringband and Dolec (2010) examined 1259 gravid women and discovered that no relationship exist between exercises and quality of sleep in expectant mothers.

Yucel et al. (2012) examined quality of sleep and associated factors in expectant mothers. They reported that a positive but frail relationship was observed between gestational weeks and mean PSQ1 total score. It indicated that sleep quality reduced as gestational week advances. Also, no remarkable difference was observed between exercise status of the pregnant women and average PSQI sum score. No significant correlation exists between age and average PSQI sum score. They concluded that quality of sleep is poor in gravid women. The researcher discovered that none of the study reviewed on sleep quality and pregnant women assessed sleep quality and HRQoL among gravid women.

2.2.7. Pregnancy-specific Stress and HRQoL

Research on stress in pregnancy has been an aspect of concern because other methods in the prediction of negetive birth results fail to sufficiently highlight which expectant mother will give birth untimely or deliver underweight babies (Lu & Halfon, 2003). Pregnant women may be influence by some stressors like stressful relationship with partner, financial challenges, home commitments, job situations, and pregnancy specific worries. In spite of major difficulties in describing as well as evaluating stress, methodological challenges entailing study plans and selected respondents, and absence of solid theoretical models, there are capable study recording significant roles of stress together with emotions in pregnancy to particular results in the course of pregnancy as well as childbirth (Cohen, Kessler & Gordon, 1995).

Pregnancy was acknowledged as a challenging experience that requires certain psychological adaptation (Elsenbruch, Benson, Rucke, Rose, Dudenhausen et al., 2007). A research by Schetter and Tanner (2012) showed that seventy-eight per-cent of expectant mothers are experiencing moderate degree levels of stress and six per-cent are facing high degree of stress. Pregnancy-specific stress (PSS) emanates from the several changes that women encounter in pregnancy including their worries concerning childbirth as well as their baby's wellness.

Stress is defined as relationship between someone and his surroundings that the individual views as difficult and challenging. The individual believes that the relationship is greater than his or her abilities and putting at risk his or her health (Lazarus et al, 1984). Stress is also referred to as the response one have when encountering situations that make one to react, change or regulate in some way to uphold one's footing or keep things normal (Scott, 2016). It is mostly adopted to explain a psychological condition created by extreme pressure. Also, stress can be seen as a condition of unstable physical or psychological states produced by stressors. To keep stable or to decrease similar states, physiological alterations happen, this is generally termed the response to stress. Stress response make people adjust to challenging situations. However, when the challenging situation is not adjusted to for a long period or if it is a severe stress, it can cause distress. A critical or severe stressful situaition may likewise be considered as distress. Distress cannot be regarded as being totally independent of stress because excessive stress results in a

condition of distress. Stress, worries and anxiety are significant aspects of distress (Schetter et al., 2012; Olcer & Oskay, 2015; Lobel et al., 2008).

Pregnancy-stress appears as aches, irritation, pains including stiffness. It is related with changes in the autonomic nervous system (Schetter et al., 2012). Pregnant women encounter stress emanating from various pregnancy-specific concerns, involving bodily changes, physical symptoms, relationship strains, parenting concerns, worries concering childbirth process, and worries concerning the wellness of the baby (Misra, O'Campo, & Strobino, 2001; Yali et al., 1999).

Pregnancy-specific stress can be described as concerns about challenges that relate with pregnancy such as alterations in appearance including physical symptoms, the fetus' health and well-being, the imminent childbirth, health-care encounters, birth and postpartum and parenting (Schetter, 2011; Alderdice et al., 2012). Pregnancy-specific stress has been conceptualized using different measures and describes using different words like pregnancy-related stress, pregnancy anxiety and pregnancy-specific distress. Evidence from many researchers differentiates pregnancy-specific stress from other form of general stress in gravidity (DiPietro, Ghera, Costigan & Hawkins, 2004; Huizink, et al, 2004; Yali & Lobel, 1999). For instance, prenatal hassles and uplifts, are terms that examines pregnancy specific stressors were developed (DiPietro et al., 2004). The prenatal distress state of the expectant mothers is affected by several factors. Presence of social support or physical assets, alterations in household as well as social life, socioeconomic status, marital status, age, domestic violence, prenatal care services, personality features, anxiety state or pregnancy associated conditions (having risky pregnancy, and earlier pregnancy challenges) may lead to distress. In addition, personality features are among the prevalent sourses of distress during pregnancy (Yoo, Popp & Robinson, 2014; Lobel et al., 2008).

The effects of pregnacy-specific stress on expectant mothers entails mood disorders, postpartum depression (Karacam & Ancel, 2009), chronic increase in blood pressure (Nik-Rahan, Kajbaf, Nori, Zeran & Naghshine, 2010), episiotomy site infections (Mulder, De Medina, Huizink Vanden, Buitelaar & Visser, 2002), increased need for anesthetic in the

course of labour and increased probabilty of impromtu cesarean procedure (Hamilton et al., 2008). In addition, maternal stress causes sleep disorders, learning and memory difficulties, walking and speaking delays, increased emotional reactiveness, rage, movement disorders and emotional-behavioural challenges in children (Kohman, Tarr, Day, McLinden & Boehm, 2008). Extended or escalated maternal stress increases risk of unfavourable fetal, infant, as well as child results (Ibrahim & Lobel, 2020). Stress can be connected to certain unfavourable results like nausea for expectant mothers, preeclampsia abortion suppressing the immune system and low birth weight for infants

Consistent reports from literature suggest that pregnancy-specific stress is an independent and often determines preterm birth better than other assessment of generalized psychological distress (Schetter, 2011; Alderdice et al. 2012). Pregnancy specific anxiety is described as fears, worries and concerns relating to pregnancy, giving birth and baby's wellness as well as parenting challenges (Huizink et al., 2004). Moreover, the capability to choose and utilise the right coping style can be a resilience resource which assist pregnant women as well as their babies from the possibly negetive consequences of stress experience. (Guardino et al., 2014).

Moreover, Pregnancy-specific stress also includes hassles and uplifts experiences (Rezaee & Fremarzi, 2014). Hassles are daily life experiences on the frustrating, irritating, aversive and unpleasant events. Evidence confirms evaluating uplifts (pleasant events) along with hassles are specific to pregnancy. Hassles and uplifts of pregnancy results from increase in stress and decline pregnancy-specific stress indicated more hassles than uplifts (Dipietro, Ghena, Costigan & Hawkins, 2004). A significantly higher pregnancy-specific stress was disclosed by expectant mothers in the first and last trimester of pregnancy. Higher hassles, higher pregnancy-specific stress and general anxiety were predicted by poor marital adjustment in the last trimester of pregnancy (Faramarzi, Amiri, & Rezaee, 2016). Pregnant women with greater mean level of pregnancy-specific stress had remarkably greater mean level of overt anxiety, occult anxiety and total anxiety compared with those who did not report pregnancy-specific stress (Faramarzi et al., 2016). It has been distinctly established in an extended academic body of confirmation that emotional

state of expectant mothers may affect fetal growth (DiPietro, 2012; Van den Bergh, Mulder, Mennes & Glover, 2005).

Previous studies attested that pregnancy unfavourable results, disorders relating to fetal and neonatal can be outcomes of psychological issues. Stress during pregnancy could result in hyperactive children including other behavioural challenges. Maternal stress was described as the most significant possible variable that may determine depression in pregnant women (Lancaster, Gold, Flynn, Yoo, Marcus & Davis, 2010; Records & Rice, 2007) The stress encountered in risky pregnancies as a result of maternal or fetal challenges is more obvious as well as serious than healthy pregnancies (Olcer et al., 2015). High stress and anxiety encountered during pregnancy unfavourably affects both mother and baby's health and pregnancy results (like abortion, preterm labour, intrauterine growth retardation including low birth weight) (Helbig, Kaaseni, Malt & Haugen, 2013; Calik & Aktas, 2011).

Lobel, Cannella, Graham, Schneider and Meyer (2008), study examined pregnancy-specific stress, behaviour in gravidity as well as birth results. The researchers investigated the contribution of pregnancy-specific stress and general stress on birth outcomes. They also verified the role of prenatal health behaviour in this association. The result showed that an inherent pregnancy-specific stress factor determined birth results more than factors signifying perceived stress, anxiety, or life event stress. They concluded that pregnancy-specific stress directly precipitated premature birth as well as indirectly precipitated low birth weight by its correlation with smoking. Pregnancy-specific stress can be a more significant contributor to birth results than general stress. Asghari, Faramarzi and Mohammadi (2016) indicated in their findings that enlightening pregnant women on the signs and psychological changes that they should anticipate, and about other areas of pregnancy, childbirth and parenting will reduce pregnancy-specific stress. This may eventually result to a better HRQoL.

Shishehgar, Dolatan, Majd and Bakhtiary (2014) investigated percieved pregnancy stress and quality of life among women in Iran. They aimed at exploring the correlation between rate of maternal stress and quality of life domains (physical health, psychological status,

social relationship as well as environmental situations). It was a cross-sectional study that was performed on two hundred and ten expectant mothers at different trimester of pregnancy who attended prenatal care. They observed that a remarkable relationship between pregnancy stress level and quality of life. In addition, a significant correlation and a direct relationship exist between quality of life environmental domain and environment dimension of specific-pregnancy stress. The findings of their study revealed that primigravidas levels of stress are higher compared with multigravidas. Primigravidas having a high-risk pregnancy can encounter elevated stress level.

The age of pregnant women is very sgnificant for the mother and fetus. Risky conditions that can adversely influence pregnant women and their fetus' health are prevalent in advanced-age pregnancies (≥35). As a result, the level of stress can be more among advanced-age expectant mothers who have the knowledge of the feasible problems related with gravidity (Bayrampour, Heaman, Duncan & Tough, 2012; Zijlmans, Beijers, Riksen-Walraven & De–Weerth, 2017). Advanced-age pregnant women encountered more distress base on the danger of feasible problems of advanced-age pregnancy including the existence of risky pregnancy detection.

Hamilton and Lobel (2008) examined coping during pregnancy among socioeconomically and ethnically diverse women with diferent medical conditions. The study focused on types, pattern and determinants of coping with stress in pregnancy. The study sought to identify how pregnant women cope with stress. Result of analysis from the Revised Prenatal Coping Inventory showed three different categories of coping styles. They are avoidance, planned-preparation as well as spiritual-positive coping. It was observed that expectant mothers used spiritual coping most consistently while avoidance coping was sparsely used. Planning coping was used more frequently across time. Result also show that predictors of planning coping were high optimism and pregnancy specific distress. Optimism and higher spirituality were the highest determinants of spiritual coping. The result shows that pregnant women utilised distinctive and different coping styles to manage the stress they experience during pregnancy.

2.2.8. Coping Styles and HRQoL

The term coping was initially derived from a theory called psychoanalytic ego psychological theory. Coping was identified in this theory as reasonable as well as amenable reasoning and actions that resolve challenges and thus minimise stress (Lazarus & Folkman, 1988). Coping can also be described as constantly fluctuating thought including behavioural attempts geared towards handling the needs of certain situation that are regarded as stressful (Lazarus et al., 1984). Coping indicates a process and entails active involvement for a period of time. Many studies have revealed various adverse effects of stress in the course of pregnancy. For instance expectant mothers who experience elevated level of stress will unlikely maintain positive health behaviour in pregnancy and this may affect their quality of life (Lobel et al., 2008). Furthermore, pregnant women who encounter increased level of anxiety or stress mostly experience premature delivery as well as giving birth to underweight babies (Schetter & Lobel, 2012).

Coping strategies have been viewed from two perspectives in research: situational coping strategies, i.e. coping strategies used in a specific situation and dispositional coping strategies, meaning coping strategies generally used by the individual (Lazarus et al., 1984). Coping with stress, was grouped by Lazarus and Folkman (1984) into problem-focused and emotion-focused coping styles. Problem- focused coping focus on reducing the situations which cause worry, and involves considering knoewledge seeking as well as searching for solution to the challenges. Emotion-focused coping, on the other hand, focused on controlling affected surrounding or a stressful experience. It involves positive reassessment of the condition, expressions of feelings to others and so on. Both problem-focused and emotion-focused coping can enhance and affect each other in the process of coping (Lazarus et al., 1984).

Yali and Lobel (1999) presented preparing for maternity as a problem-focused coping style while avoidance coping together with positive appraisal were categorised as emotion-focused coping methods. While preparing for gravidity, women seek information as well as knowledge regarding pregnancy, labour, childbirth and gravidity requirements (Sarani, Azhari, Mazlom & Aghamohammadian, 2015). Positive/spiritual coping motivates women to be optimism and prayerful so as to experience a more favourable pregnancy. Moreover, avoidance coping strategy is used by women who ignored the

visible changes induced by gravidity and tried to keep their feelings regarding gravidity (Hamilton et al., 2008). Avoidance coping methods in pregnant women are commonly related with depression, greater perceived stress, lower mental stability, distress, anxiety, premature delivery, postpartum depression, alcohol consumption and greater use of cigarettes/tobacco (Guardino et al., 2014). Huizink et al. (2002) expressed that the utilization of relevant coping methods decreases gravidity-related problems like changes in appetite, pain in the back, emotional disorders, loss of attentiveness, nausea and vomiting, depression after child birth and other unfavourable pregnancy results.

Pregnant women who have pregnancy challenges utilise several coping methods against stressors they experience in the course of gravidity. Inefficient coping styles like, crying, sleeping, eating and keeping their emotions and sadness, tend to minimise responses to stressors rather than removing them. Thus, in an attempt to adapt to the stress created by risky gravidity, the expectant mother and her household must identify previous coping strategies they have utilized as well as acguire fresh coping techniques. It is greatly essential to identify the personal traits of the expectant mothers to enable them efficiently adapt to the challenges produced by the unsafe gravidity. Having the knowledge of the personal traits of expectant mothers adds to a more individualized care including support programme. By utilising individualized care methods, midwives and nurses in antenatal centres can assist the personal growth of the expectant mothers (Olcer et al., 2015; Gilbert, 2011).

Borcherding (2009) investigated coping in healthy primigravidas and describe sociodemographic factors related with styles of coping. It was a descriptive survey research in which sample of healthy primigravidas (N=159), whose ages were between 18 and 34 years, and in their last trimester, participated. They reported that the most frequently utilised coping styles were prayer and task coping while emotion and avoidance coping were spersely utilised. They also revealed that frequent utilization of preparation and distraction coping is prevailent among younger primigravidas. Frequent use of task, distraction and prayer coping was related with Non-White race. The study summed up that healthy primigravidas utilized different kinds strategies of coping, which are influenced by sociodemographic variables. Future studies need variety of samples to

examine role of prayer in gravidity and the impact of stress as well as various psychological variables on coping stretegies.

The result of a research conducted by Hamilton and Lobel (2008) on types, patterns, and determinants of coping with stress in gravidity revealed that pregnant women used spiritual coping most consistently while avoidance coping was sparsely utilised. Avoidance coping was strongly determined by pregnancy specific distress. Spiritual coping style was greatly determined by optimism and religiosity. These outcomes supported the evidence that expectant mothers utilise certain and diversed methods to manage challenges in gravidity. Sarani, Azhari, Mazlom and Aghamohammadian Sherbaf (2016) investigated the relationship between coping styles, perceived stress of gravidity and gravid women. The research was conducted on randomly sampled five hundred pregnant mothers in twenty diferent hopitals in Mashhad. They collected data using the Perceived Stress Questionnaire (PSQ). Results showed that, average score of planned preparedness strategy, the avoidance strategy, positive spiritual strategy and the perceived stress levels of respondents was 3.12±9.34, 5.9±3.14, 7.5±3.17 and 6.9±3.23 respectively. They concluded that while perceived stress was inversely correlated with avoidance coping strategy, it has a positive correlation with planned preparedness coping method and positive spiritual coping method.

Moreover, maternal coping styles have drawned significant attention, when considering their connection with women and offspring's wellness. Actually, maternal coping was revealed to determine the feature of mother-child relationship, quality of life and developmental outcomes of the child (Eisengart et al., 2006). Huizink, Robles de Medina, Mulder, Visser and Buitelaar (2004) examined coping in healthy gravidity. They used Utrecht coping list (UCL-19) to collect data on various aspects of personality, common features (mother's age, socioeconomic position) and pregnancy challenges in primigravidas through the three trimester of gravidity. The result showed that problem-focused coping and emotion-focused coping were two coping styles identified with confirmatory factor analysis on the UCL-19. The conclusion was that most primigravidas utilised emotion-focused coping in the first trimester of gravidity and is more efficient in minimising the total of recorded complaint by pregnant mothers.

A study on the correlation of coping styles and anxiety with PSS was carried out by Faramarzi, Amiri and Rezaee (2016) using 190 women. The result of their study showed that expectant mothers who encountered greater average level of PSS has remarkably reater average level of anxiety more than those who did not encounter pregnancy-specific stress. There was favourable and significant interaction between hassles and uplifts and methods of coping while no significant relationship exist between pregnancy-specific stress and methods of coping. They concluded that the variance of pregnancy hassles was by predicted methods of coping whereas it does not assess pregnancy-specific stress.

2.2.9. Demographic Variables and HRQoL

Researchers have investigated the relationship between QoL and demographic factors during pregnancy. The reported QoL scores were low in women of young age and low educational level. This means that association between age and quality of life is strong according to available evidence. Mujcic and Mujcic (2020) examined socio-demographic factors associated with quality of life among pregnant women. They reported that younger maternal age was positively associated with a better quality of physical health. Older maternal age was associated with better self-reported mental health, being married was associated with better physical and mental health. Similarly, Ramirez-Velez (2011) found that being married was significantly correlated with all health domains, with the exception of bodily pain. It was observed that women seek stable marital relationships such as marriage, the necessary support to overcome the changes imposed by pregnancy. Socio-demographic factors such as age, marital status and first pregnancy were associated with quality of life of pregnant women.

A cross sectional survey was undertaken by Gil-Lacruz, Gil-Lacruz and Gracia-Perez (2020) to examines the way in which the educational level of young people from an urban district in the city of Zaragoza (Casablanca) has an influence on their HRQoL. The results showed that the higher the level of education, the better the level of HRQoL. The biggest impact of education was on the mental health dimension. A study of the effects of socio-demographic variables on QoL in a random-quota sample from the Austrian population showed that older people had lower scores in almost all aspects of QoL than younger

people (Prause, Saletu, Tribl, Rieder, Rosenberger, Bolitschek, Holzinger, Kapfthammer, Katschnig, Kunze, Popovic, Graetzhofer and Zeithofer, 2005).

A study on the Chinese population by Wang and colleagues showed that mean scores for QoL were typically lower for the elderly. Also, significantly lower QoL score for the elderly was observed at a lower age in Chinese population than populations from developed countries (Wang, Kindig and Mullahy, 2005) even among the very young, age is also found to have influence on the QoL. The study by Corinna Bisegger and colleagues and the European Kidscreen group showed that children had higher QoL scores than adolescents in many aspects (Bisegger, Cloetta, Von Rueden, Abel, Ravens-Sieberer and Kidscreen, 2005). However, though also showing evidence of a decline of QoL with age, some other studies showed an impact of age mainly on sub-dimensions related to physical functioning (Jenkinson, Stewart-Brown and Peterson, 1999). The influence of age on QoL is not limited to healthy subjects. In the U.S., study by Djibuti and Shakarishvili (2003) which examined the influence of clinical and socio-demographic factors on QoL in patients with epilepsy, advanced age was significantly associated with low overall QoL.

The study by Prause et al., (2005) on the effects of socio-demographic variables on QoL in an Austrian population showed that marital status had significant influence on QoL. Differences in QoL were found between singles and divorced persons on the one hand and married couples on the other. Living together and in partnership had a positive effect on QoL and was associated with higher quality-of-life score, while divorce or the death of a partner resulted in a decline of the QoL. Lubetkin, Jia, Franks and Gold (2005) examined data from the 2000 Medical Expenditure Panel Survey in the United States. The result of their study showed that QoL scores were lower for persons with lower educational attainment. Two studies by Regidor and colleagues, and Sullivan and colleagues respectively, showed that lower education was associated with lower quality-of-life score (Sullivan, Karlsson & Ware, 1995; Redigor & Barrio, 1999). Djibuti and Shakarishvili (2003) carried out a study which examined the influence of clinical and socio-demographic factors on QoL in patients with epilepsy. They reported that low education was significantly associated with low overall QoL.

Other studies found that higher education was associated with only some, but not all, of the composite scores for QoL. A study by Thumbo, Fong, Machin, Chan, Soh CH, Leong, Feng, Thio and Beoy, (2003) on the Singaporean population, which is a multi-ethnic urban Asian one, showed that higher education was associated with higher scores in some of component aspects of QoL (4/8 scores) namely physical functioning, general health, role-emotional and mental health. The study by Riise and colleagues, which examined the QoL in a general population in Norway, found that increasing education was found to be associated with only increased physical component summary score but not mental component score (Riise, Moen and Nortvedt, 2003).

On the other hand, the study of the effects of socio-demographic variables on QoL by Prause and colleagues on the Austrian population showed that education had no significant association with QoL (Prause et al., 2005). Similarly, in the study by Gertrudis and colleagues, which examined the moderating effects of level of education on QoL in the elderly, found that there was no substantial evidence showing that elderly persons with lower levels of education experienced lower levels of QoL when suffering from chronic medical morbidity than elderly persons with higher levels of education (Kempen, Brilman, Ranchor & Ormel, 1999).

Skrzypczak, Laski, Czerniak and Kycler (2009) carried out a study to verify the influence of age and selected socio-demographic variables on quality of life among females with breast cancer. A group of 145 females between 32 and 84 years of age participated in the study. They reported that no remarkable difference exist between respondents' age and quality of life. The duration elapsed since the diagnosis was a significant distinguishing factor with regards to the self-reported level of cognitive problems, sexual functioning and positive emotions. Respondents with higher education and are with partner were more inclined to social avoidance and more severely affected by fatigue than those who are single. The distress associated with the diseases and its treatment reduces the respondents'' quality of life so significantly that the impart of other factors like age and socio-demographic was not significant in their subjective evaluation of quality of life

Bouzari, Kotenaie, Darzi and Hajian, (2013) examined the influence of socio demographic factors on menopausal symptom and quality of life after menopause. Seven hundred Irannian postmenopausal women between age 40 and 60 years participated in the cross-sectional study. The menopause quality of life questionnaire (MENQOL) was used to collect data from respondents selected through the standard cluster sampling techniques. They reported that household income, age, education and duration of menopause were related with the domains of QoL. Married women had significantly lower scores on physical, psychosocial and sexual domains showing better quality of life.

2.2.10. Psychoeducation and HRQoL

Psychological interventions have been described as way of creating changes in an individual's thoughts, feelings or behaviour. These interventions can improve quality of life despite the fact that a mental challenge is not existing (Feldman & Dreher, 2012). Based on the demands, psychological interventions can vary and it may be directed especially toward a person or category of persons that is receiving treatment. There are different categories of psychological intervention and psychoeducation is one of them. Group psycho-education can be very effective as members feel they have the cooperation of the group including the affect of not being alone which decreases the level of stress in the codtion. Moreover, in a group setting, experiences are shared with each other. Hence each person acquires a viewpoint of how others manage their situation which contributes to the total learning exposure. Corey and Corey (2006), expressed that psychoeducation is applicable for viable people who lack certain knowledge. Therefore, the aims of psycho-education are to teach, explore, acquaint and motivate an assessment of members' values, opinions, ideas behaviours as well as beliefs (Rivera, Wilbur, Phan, Garretti & Betz 2004).

Studies have confirmed the effectiveness of psycho-education intervention for improving normal functioning and well-being of pregnant women. Psychoeducation shows a fundamental change to a better integrated and compability-based persepective, emphasing coping, health, empowerment and partnership (Dixon, 1999). Although psychoeducation may be carried out face-to-face, group practice patterns prepare the mode for in-group discussion, social learning, potential for group help of favourable change, extension of

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support and cooperation and building network (Penninx, Van Tilburg, Kriegsman, Boeke, Deeg & Van Eijk, 1999). In this study the researcher used group practice models which allowed dialogue with the group between the researcher and the group members and between the members of the group. It is necessary to note that some doctors and health workers merely provide antenatal vitamins to pregnant women but do not provide psychoeducation. It is not commonly known among doctors on what kind of psychoeducation intervention is beneficial for pregnant women. Giving effective care together with education to expectant mothers can improve their adjustment to alterations caused by pregnancy.

Atunwa (2018) investigated the influence of psychosocial factors and the efficacy of psychoeducational intervention on HRQoL among vesico vaginal fistula patients in Zaria, Nigeria. Thirty vesico vaginal fistula patients having poor health related quality of life were involed in the intervention phase of the study. The result revealed that psycho-educational intervention was efficacious in addressing positive psychological qualities that could improve HRQoL.

Kempler, Sharpe and Bartlett (2012) carried out a study on sleep education during pregnancy for primigravidas. Their participants were 214 primigravidas in their last pregnancy trimester. The participants in the control group were selected to take a set of booklets while their counterparts in the experimental group were involved in three hour psychoeducation training that focus on sleep. The result showed that respondents in the experimental group reported good sleep quality and sleepiness in the postpartum stage than those in the control group. It was also observed that the scores on depression were lower among those in the experimental group than the scores of those in the control group.

Moreover, Fenwick, Gamble, Creedy, Buist, Turkstra, Sneddon, Scuffham, Ryding, Jarrett and Toohill (2013) examined study procedure for decreasing childbirth fear which is a midwife-led psychoeducation programme. Pregnant women in the mid pregnancy trimester were engaged and selected from antenatal hospitals in Queensland, Australia. Pregnant women, who reported having high fear of childbirth were assigned to experimental group and control groups randomly. Midwives offered psychoeducation

training over the telephone at 24 and 34 gestational weeks. The training aimed at reviewing birth expectations, work through distressing aspects of childbirth, explain methods to develop support connections, affirm that unfavourable childbirth conditions can be controlled, and establish a birth plan.

Rowse, Sperlich and Seng (2014) investigated the efficacy of a trauma-specific psychoeducational programme for expectant mothers with a record of childhood abuse. They made use of seventeen respondents for the pilot intervention study and forty-three respondents for the matched observational study. Respondents in the preliminary study were given normal care along with the intervention while respondents in the observational study were given normal care. They reported that respondents in the intervention group had better score on all measure and concluded that trauma-specific intervention benefit pregnant women who have a record of childhood abuse. Aynur and Muruvvet-Baser (2016) investigated the impact of education received by primigravidas on childbirth fear. It was a study that focused the on effect of education on knwledge about the delivery room, labour and coping styles in primigravidas. Ninety-nine primigravidas participated in the study. Fifty and forty-nine primigravidas were in the experimental and control groups respectively. The result of the investigation revealed that positive perception concerning birth was provided and fear of child birth reduced with the preparation education for birth.

It is now acknowledged that the spectrum of psychological health of women during pregnancy especially among primigravidas requires attention both for the wellbeing of the women and the development of her child. Stress and coping style have been identified among several danger factors that play a role in mood disturbances during pregnancy and are amenable to intervention in contrast to others such as genetic and families background (Sercekus & Baskale, 2016; Cury, Savoia & Menezes, 2012). Pregnancy provides an opportunity for behavioural interventions and improvement of women's health. Minimizing concerns related to behaviour change is the best motivation for pregnant women (Ghasemi, Nazari, Vafaei & Fararouei, 2017).

Moreover, conducting research on HRQoL among primiravidas is essential in order to point out the concerned domains and develop relevant psychoeducation so as to improve their HRQoL. It was observed from the literature reviewed that none of the study investigated how these psychological factors predict HRQoL and the efficacy of psychoeducation among primigravidas. The researcher aimed to investigate psychological factors (health-care seeking behaviour, sleep quality, pregnancy-specific stress, and coping styles) predicting HRQoL and the efficacy of psychoeducation among primigravidas in Ibadan, Nigeria.

2.3. Conceptual Framework

The conceptualised framework that explains the roadmap for the study is shown in Figure 2.2 below. The study framework is in two separate phases on the same continuum. The first phase entails the survey aspect of the study and the second phase involves the intervention (experimental) part of the study.

Figure 2.2: Framework showing the linkage of variables of the Study
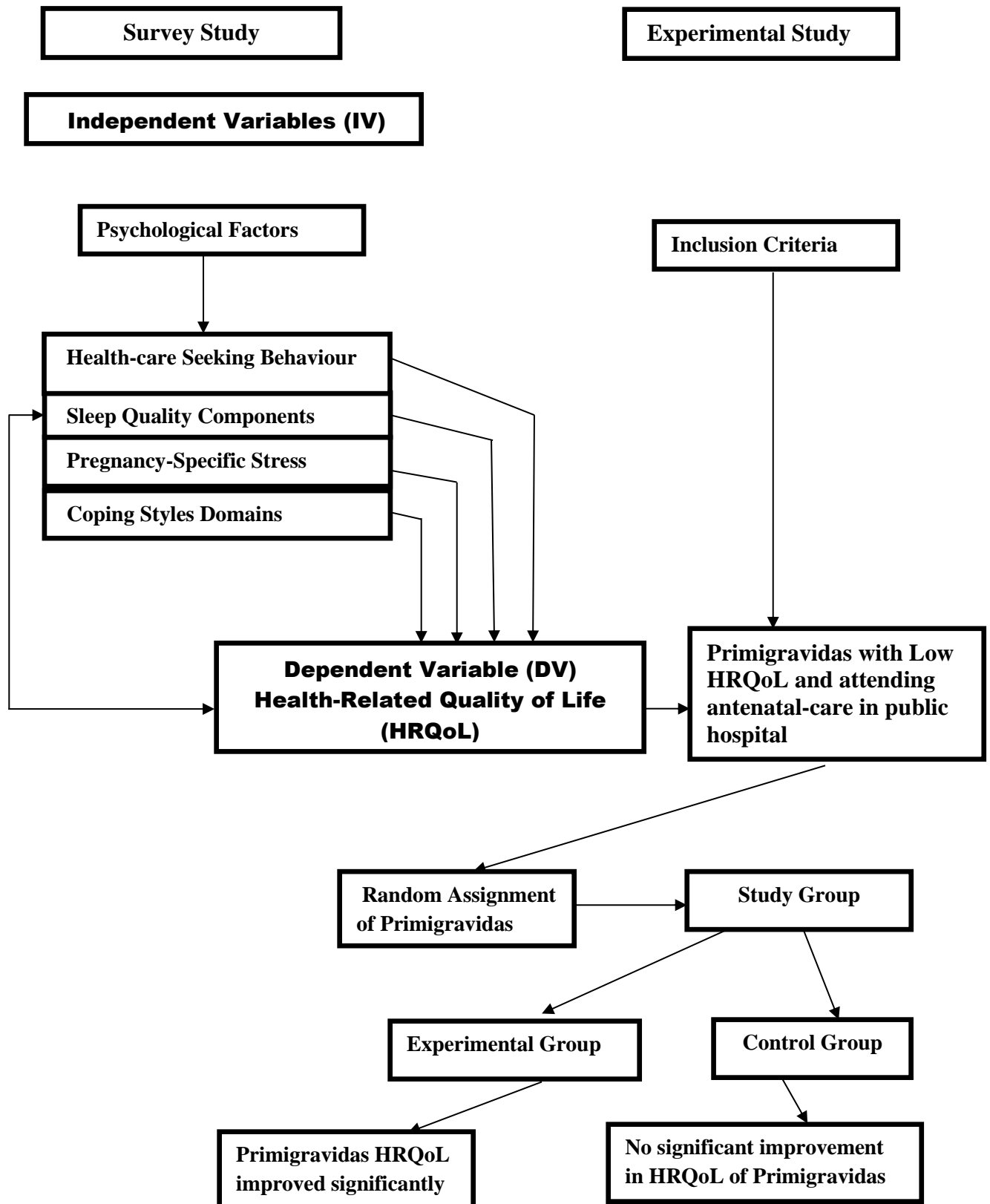
From the above framework (fig 2.2), on the first arm (survey phase) shows hypothesized roles of psychological experiences on HRQoL of primigravidas. The independent variables at this phase are health-care seeking behaviour, sleep quality, pregnancy-specific stress, and coping styles. The dependent variable is HRQoL of primigravidas which can be predicted independently and/or jointly by the independent variables. HRQoL is expressed in two possible outcomes (i.e good HRQoL as evaluated by high score on World Health Organization Quality-of-Life Scale (WHOQoLS) and poor health-related quality-of-life as measured by low score on the same scale). Respondents who scored high on the WHOQoLS were exempted at the experimental phase while those who scored low where involved in this phase of the study with consideration to the principle of voluntariness and informed consent.

The right arm of the conceptual framework above (fig 2.2) indicates the experimental phase in the study. The diagram shows hypothesized possible effect of psychoeducation on HRQoL among primigravidas. Only participants in the experimental group were exposed to psychoeducation while the participants in the control group did not. This phase involved implementation of the psychoeducation with participants who consent and where assigned using simple random procedure to experimental group.

CHAPTER THREE
METHODOLOGY

The chapter explains a detailed outline of the methods that were utilized by the researcher to respond to the research objectives of the study. They were explained under the following sub-headings: research design, setting, participants, instruments, ethical considerations, procedure, and statistical analysis.

3.1. Design

The researcher employed a mixed-methods research design in the study. A mixed-method design is a research design that utilizes qualitative methods as well as quantitative techniques in one study. The research was carried out in three phases. Phase one was the pilot study, which entails exploratory study, scale development and scale validation. The second phase was the quantitative study, which was conducted using a cross-sectional survey research design. The third phase was quasi-experimental research, which was carried out using a pre-test-post-test control group design.

3.2. Phase One: Pilot Study

This phase of the study was a preliminary exploration that informed the study. Its goal was to elicit information on issues relating to HRQoL among primigravidas. It was also aimed at gaining information required to develop a pregnant women health-care seeking behaviour scale and revalidate the scales used in the study.

3.2.1. Design

An exploratory design was adopted and it allowed the researcher to explore perspectives on primigravidas' HRQoL and psychological challenges from the views of primigravidas attending antenatal clinic including the matron, nurses and doctors attending to them. The exploration design was important as it enabled the researcher to gain insight and

information on primigravidas. This phase of the study was also very helpful in the development of items for the primigravidas health-care seeking behaviour scale and for revalidation of the existing scales. The researcher used focus group discussion (FGD), in-depth interviews (IDIs) and key informant interviews (KIIs) to gain information for the pilot study.

3.2.2. Setting

This phase of the study was carried out in Jericho Nursing Home, Jericho, Ibadan. The hospital is located in Ibadan Northwest Local Government Area. This hospital was selected because it is one of the renowned government hospitals in Ibadan. Moreover, it has a functional antenatal section and also has a record of high patronage of pregnant women for its antenatal clinic. The antenatal section of the hospital was used.

3.2.3. Sampling Procedure

A purposive sampling technique was utilized to choose respondents for the various aspects of this phase. Primigravidas, who showed interest and gave their consent after they had understood the objectives of the study, participated in the IDI and FGD. In addition, the medical personnel who were on duty were approached and those who gave their consent participated in the KII.

3.2.4. Study Population

For this phase, the study population constituted primigravidas attending antenatal clinic and medical personnel working at the antenatal section of Jericho Nursing Home Ibadan.

3.2.5. Participants

Participants sampled in this phase were exposed to KII, FGD and IDI. Twenty-eight (28) participants participated in the study (KII, 3 participants; IDI, 8 participants; FGD, 17 participants). KIIs were conducted among the medical personnels (it comprised of a doctor, Matron and Chief Matron) working at the antenatal section. The IDIs were conducted among the primigravidas (n=8) while FGDs were conducted in two groups (FDGI; 22-34years (n=8) and FGD2; 23-31years (n=9) among primigravidas attending

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antenatal clinic in the hospital. Out of the IDI and FGD participants twenty-two were married and three were singles. Also, twelve has first degree, eight has secondary school certificate and five has primary school certificate. Moreover, ten were civil servants, five were trader, six were artisan and four was unemployed.

3.2.6. Instrument

A KIIs and FGD guides, designed by the researcher, were employed to obtain relevant information at this phase (see attached appendix). An audio recorder, writing pen and blank sheets for note taking were also used. The questions were open ended and based on study goals, but were opened to probe areas that emerged during the discussions.

3.2.7. Procedure

A letter of introduction was obtained from the Department of Psychology University of Ibadan to the Chief Medical Director of Jericho Nursing Home Ibadan. The Director referred the researcher to the Chief Nursing Officer (CNO) at the antenatal section of the hospital. After gaining the knowledge about the purpose of the study, the CNO allowed the researcher to address the pregnant women present at the antenatal clinic. Primigravidas were selected and their consents were sought. The researcher involved only primigravidas who showed interest in the interview while the respondents were given the assurance that the data will be treated with confidentiality and used only for research purpose.

Participants were all interviewed at their convenience. IDIs' duration was between 20 and 30 minutes per participant. The FGDs and IDIs were conducted in the waiting antenatal room while the KII was conducted at the offices of the medical personnel. The researcher obtained verbal consent of the participants to audiotape and take notes during the interview sessions. Some refused audiotape (note taking was done instead) others consented.

The KIIs was conducted for about 35 minutes with individual medical personnel (a doctor, matron and chief matron) after establishing rapport and obtaining their consent to participate. The FGDs was for about an hour each and it involved eight and nine respondents in group one and two respectively. During the FGDs, participants responded

to the moderator's questions and also gave follow-up response to each others comments, thus yielding a rich discussion.

3.2.8. Data Analysis

Responses from the participants were transcribed and themes were identified by thematic content analysis. Based on recurrent patterns, the researcher identified existing psychological/ HRQoL challenges among primigravidas and certain variable that can be implicated for the purpose of conducting further phase in this study. Moreover, the development of items for the new scale to assess reasons pregnant women seek for health-care in government hospital was made possible from the identified themes. Ten items were generated from the qualitative data.

3.2.9. Scale Development

Items generation for Pregnant Women Health-care Seeking Behaviour Scale (PWHCSBS)

The aim of developing PWHCSBS was to assess the reasons pregnant women attend public hospitals as no scale has been identified to adequately capture this aspect of their bahaviour. To create the items for the new scale, three techniques were used, which were: interviews, focus group discussions as well as adaptations from literature. This was to ensure that items adequately captured the concept and were culturally relevant to the context. The FGDs, IDIs and KIIs provided information on recurrent themes and dimensions of health-care seeking behaviour among this population. Literature also guided the researcher in identifying related issues to construct of interest.

Scale Validation

Thirty items were initially generated from an extensive literature review and qualitative analysis. These items were further reduced to twenty-two as some items were seen as duplicates. Others were modified to improve their clarity and to express appropriate meaning. These items were presented to twelve experts (nine in the Department of Psychology in University of Ibadan and three in the University College Hospital) to state

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their suitability and usefulness in assessing health-care seeking behaviour among expectant mothers. Their ratings were anaylsed to assess their agreement on the suitability (content validity) of each item in measuring health-care seeking behaviour. Any item that did not meet a 60% criterion was dropped. Based on their independent contributions, seven items were dropped and as a result, only fifteen items met criterion and were left for pre-test. Items were created into a Likert type 4-point questionnaire that ranged from strongly agree to strongly disagree.

The health-care seeking behaviour scale items as well as other standardized instruments used in this study were subjected to pilot testing to ensure their suitability for use among primigravidas. Jericho Nursing Home, Jericho, Ibadan, was used for the pilot testing of the instruments for this study. Participants were primigravidas attending an antenatal clinic at Jericho Nursing Home. A total of sixty questionnaires were distributed to the respondents in the pilot phase but only the fifty-five questionnaires that were properly filled, were used for analysis. The data from the pilot test was used to ascertain the validity as well as reliability of the scale used in the research.

Reliability and validity testing

The validity of the scale items were assessed in this way:

i. Face validity: Thirty items were initially derived after frequency analysis from data transcripts. Based on face value, some of these items were identified as duplicated. Some others were modified by experts to improve their clarity and to express appropriate meaning. Based on these, eight items were removed and generated items were reduced to twenty-two.

ii. Content validity: This was done to establish the extent to which items of the scale were representative of the subject of interest. To establish content validity, twelve experts (nine from the Department of Psychology, University of Ibadan as well as three from the University College Hospital) were given the items to state their suitability in assessing health-care seeking behaviour among primigravidas. This agrees with Sunmola (2001), who suggested the use of experts rating for content validation. The experts were required to rate the items suitability by selecting the option Yes (suitable)

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or No (not suitable). They were also asked to make suggestions in terms of modification of items if they needed to. As suggested by Kerlinger (1993), items not receiving up to 60% acceptance, were dropped. Based on expert opinions, six of the items were reworded and five did not meet 60% agreement on suitability. These were thus removed. The instrument was left with fifteen items that were subject to pre-test.

iii. Construct Validity: To establish construct validity, convergent and discriminant validity was conducted. The pregnant women health care seeking behaviour scale was administered alongside the scale that measured similar or the same construct (General help-seeking questionnaire- Wilson, Deane & Ciarrohi, 2005) and a scale that measured a different construct (Pittsburgh Sleep Quality Index - Buysse, Reynolds, Monk, Berman & Kupfer, 1989). Pearson correlations yielded in the convergent validation between pregnant women health care seeking behaviour scale and help seeking behaviour scale shows that there is a strong positive relationship (r =0.582, p< .001). The discriminant validity result showed that a low relationship (r= 0.004, p < 0.001) exist between pregnant women health care seeking behaviour scale and Pittsburgh Sleep Quality Index.

iv. Factor analysis: The researcher conducted factor-analysis on the data gathered in the course of the pilot study to further test its validity. The responses on the health-care seeking behaviour scale of fifty-five participants were exposed to exploratory factor analyses. According to Decoster (1998), with factor analysis one examines the nature of constructs that influence responses on a number of measured variables. Measures showing high correlations suggest they are influenced by the same factors. This was executed on the items administered.

The Kaiser-Meyer-Olkin sampling adequacy (KMO) and Bartlett Test of Sphericity (BTS) were conducted on the pilot data to test the scale's suitability for factor analysis. This is shown in Table 3.1. KMO observed was .938, which is satisfactory for sampling adequacy and BTS observed was $\chi^2 = 2211.846$, p< .000.

Table 3.1. Kaiser-Meyer-Olkin and Bartlett test of Sphericity

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.938
Bartlett's Test of Sphericity	Approx. Chi-Square	2211.846
	df	231
	Sig.	.000

The exploratory factor analysis conducted on pilot study to determine the factors or dimensions present in the scale revealed that the health-care seeking behaviour scale has no dimension. The table showing the factor analysis is included in the appendix.

iv) Cronbach Alpha: Every scale used in this research yields a cronbach alpha of 0.70 or above. Cronbach alpha as low as 0.60 has been reported to be adequate and acceptable for internal consistency (Hair, Black, Babin, Anderson & Tatham, 2006). The reliability of the instrument (PWHCSB) was found to be 0.99 and the Guttman Split-half reliability of 0.97.

Revalidation of Study Instrument

Revalidation of all instruments was carried out during the pilot study. The norms of the scales and their suitability in the research environment were re-confirmed before the main study. The questionnaires were administered to fifty-five (55) pregnant women attending an antenatal clinic at Jericho Nursing Home, Jericho, Ibadan. Statistical analysis was conducted after the administration and collection of the questionnaire. The Cronbach alpha values recorded for each scale are summarized in table 3.2 below.

Table 3.2. Summary of the Reliabilty Coefficients of the administered Scales

Scale	No of items	Cronbach's Alpha
World Health Organization Quality of life (WHOQOL-BREF)	26	0.89
Pregnant Women Healthcare Seeking Behaviour Scale	15	0.99
Pittsburgh Sleep Quality Index (PSQI)	18	0.85
Revised Prenatal Distress Questionnaire	17	0.87
Revised Prenatal Coping Inventory (NuPCI)	42	0.91

The reliability results showed that high-reliability coefficients were established for all the scales, thus indicating the internal consistency of the scales and their suitability for use among the target population.

3.3. Phase Two: Cross-sectional Survey Phase

The second phase of this study was the cross-sectional phase. Respondents at this stage were subjected to validated instruments with strong psychometric property that measured the demographic and psychological constructs that were relevant to the objective of the study.

3.3.1. Design

This phase utilised a cross-sectional survey research design to examine psychological factors (health-care seeking behaviour, sleep quality, pregnancy-specific stress, and coping styles) predicting HRQoL among primigravidas in Ibadan. Cross-sectional surveys attempt to explore relationships to make predictions between independent variables of study and the dependent variable. The design enables the researcher to examine how identified psychological factors are associated with the dependent variables of the study. Moreover, data was collected through questionnaires.

3.3.2. Study Setting

This research was conducted in Ibadan. Ibadan is the capital of Oyo State. It is the largest city in West Africa. The Yoruba people are the main inhabitants of this popular city, which is located in south-western Nigeria. It serves as the home for trade and commerce. Ibadan is one of the cities in Nigeria with a high population. This phase of the study was conducted in nine public (government owned) hospitals that were selected from the three categories of hospitals. Two tertiary hospitals, which are: Adeoyo Maternity Hospital Yemetu and University College Hospital. Three state hospitals, which are: State Hospital Ring Road, Jericho Specialist Hospital and General Hospital Apata. Four basic health centres, which are: Ologuneru Health Center, Bodija Health Center, Apete Health Center and Agbowo Health Center. Moreover, conducting the study in public (government owned) hospitals in Ibadan is advantageous because public hospitals have the highest

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number of pregnant women during antenatal clinic than other hospitals. In addition, most pregnant women prefer to receive health-care in public hospitals during pregnancy since the rates are generally affordable in contrast to the high charges in private hospitals (Olayemi et al., 2016; Odetola, 2015).

3.3.3. Participants

The participants for this phase of the study were primigravidas who fulfilled the inclusion guidelines and agreed to participate in the research. They consist of seven hundred and sixty-eight (768) women who are carrying their first pregnancy (primigravidas) and are seeking health-care (attending antenatal care) in selected public hospitals in Ibadan. Respondents' ages varied between 18 and 41 years old, with an average age of 26.82 and a standard deviation of 6.08. 98 (12.8%) of respondents were selected from Adeoyo Maternity Hospital (AMH), 95, (12.4%) from University College Hospital, Ibadan (UCH), 93 (12.1%) from State Hospital Ring Road (SHRD) and 93 (12.1%) from Jericho Specialist Hospital (JSH). In addition, 90 (11.7%) of the respondents were selected from General Hospital Apata (GHA), 82 (10.6%) from Bodija Health Centre (BHC), 76 (9.9%) from Apete Health Centre (APHC), 72 (9.4%) from Agbowo Health Centre (AGHC) and 69 (9.0%) from Ologuneru Health Centre (OHC), respectively. The pie chart of the distribution of participants according to hospitals is presented in figure 2 below.

Figure 3.1: **Pie Chart showing distribution of participants according to hospitals**
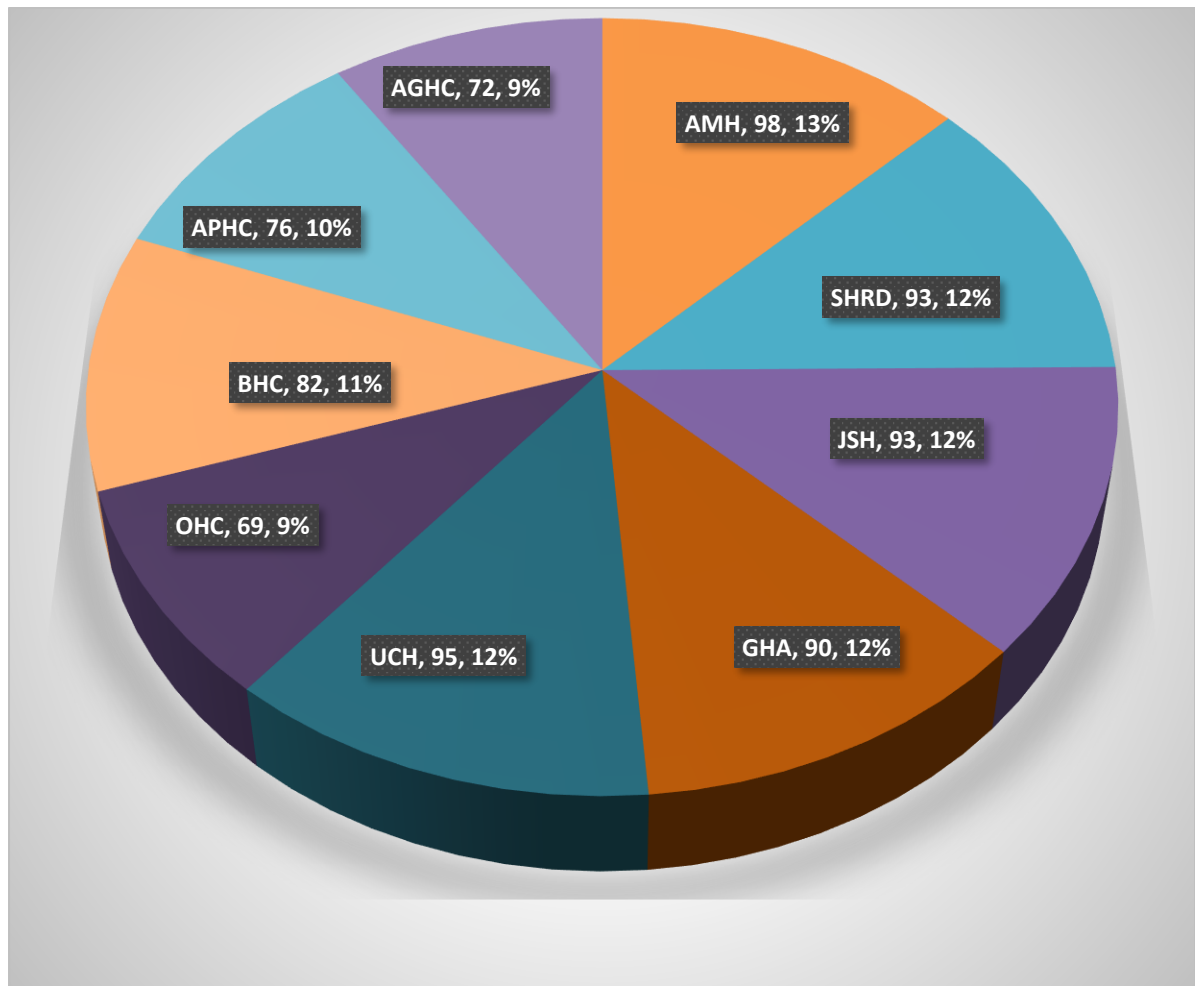
Figure 2 is a bar chart representation of the participants according to nine hospitals selected for phase two of this study.

3.3.4. Sampling Procedure

Diferent sampling techniques were employed in selecting hospitals that fall into the category of tertiary hospital, state hospitals and health centres. Purposive sampling method was used to select the only two tertiary hospitals in Ibadan which were Adeoyo Maternity Hospital Yemetu and University College Hospital. This method was used because they are the two tertiary hospitals in Ibadan. Simple random sampling method (using the balloting format) was utilized to select three state hospitals which were State Hospital Ring Road, Jericho Specialist Hospital and General Hospital Apata. In addition, purposive sampling method was used to select four basic health centres which were Ologuneru Health Center, Bodija Health Center, Apete Health Center and Agbowo Health Center. Purposive sampling method was also employed to choose 768 respondents for the cross-sectional survey study. Primigravidas seeking for health-care (attending antenatal care) in the nine selected public (government owned) hospitals and met the criteria for inclusion participated in this phase.

3.3.5. Sample Size Calculation

The sample size was estimated by making use of a sample size calculation formular designed by Solvin. According to the record obtained from the Oyo State Ministry of Health, Ibadan, the total number of primigravidas who registered for antenatal care in government hospitals in Ibadan in 2018 was 8,608.

Slovin's Formula for Determining the Sample Size:

$$n = \frac{N}{1 + Ne^2}$$

N represents population size

n represents sample size

e represents margin of error

1 represents constant value

$$n = \frac{8,608}{1+8,608\,(0.05^2)} \quad = \quad n = \frac{8,608}{1+8,608(0.0025)}$$

$$n = \frac{8,608}{1+21.52} \quad = \quad n = \frac{8,608}{22.52}$$

$$n = 382.238 \approx 382$$

3.3.6. Criteria for Inclusion and Exclusion

The inclusion together with the exclusion criteria of the respondents are essential characteristics of participants that were important to the study.

Criteria for Inclusion

i.   Participants must be primigravidas,

ii.   Participants must be primigravidas who are 18 years and older

iii.   Participants must be primigravidas attending antenatal care in public (government owned) hospitals only in Ibadan

iv.   Participants must be primigravidas who have expressed an interest in participating in the study

v.   Participants must be primigravidas who can read and communicate in either English or Yoruba language.

Criteria for Exclusion

i.   Women who have been pregnant more than once,

ii.   Primigravidas who are below 18 years of age,

iii.   Primigravidas who do not seek health-care (attending antenatal care) in public hospitals in Ibadan,

iv.   Primigravidas who are unable to read and communicate in either English or Yoruba language,

v.   Primigravidas, who are not willing to take part in the study.

3.3.7. Instrument for Data Collection

A self-reported questionnaire was utilized to collect relevant information for this phase of the research. The questionnaire consists of 118 items (see appendix B) and is made up of six sections; A–F, measuring demographic information of primigravidas, HRQoL, HCSB, sleep quality, pregnancy-specific stress and coping styles, respectively. These scales were pretested to validate their properties with the population of study.

Section A: Demographic information

This section consisted of demographic information on primigravidas. It contained information on age, educational level, religion, occupation, marital status, number of pregnancy and months of pregnancy.

Section B: Health-related Quality of Life

The World Health Organization Quality of life (WHOQOL-BREF) scale, developed by the WHOQOL Group (1998), is a 26-item questionnaire designed to be a cross-culturally suitable instrument for the subjective assessment of HRQoL. The WHOQOL-BREF has 2 parts. The first part, which has 2 items, evaluates the patients' subjective evaluation of the quality of life as well as their satisfaction with their condition of health. The second aspect, which has twenty-four (24) items, evaluates the four domains, which are: psychological (6 items), physical health (7 items), social relationships (3 items) and environment (8 items). Items on the WHOQOL-BREF are measured on a 5-point Likert scale in a positive direction. Examples of items on this scale include: "How would you rate your quality of life? How well are you able to concentrate?" The scoring format for the scale ranges from very poor (1) to very good (5). Scores above the mean suggest good health, while scores below the mean signify poor health. This means that the higher the score of the participants on the scale, the better their HRQoL, while the lower the scores, the poorer their HRQoL.

The scale's psychometric properties have been demonstrated in diverse samples in Nigeria. Gureje, Kola, Afolabi and Olley (2008) recorded internal reliability Cronbach's alpha of 0.86 for WHOQOL–BREF. Atunwa (2018) reported alpha levels for each sub-

scale as follows: physical health (0.84), psychological (0.86), social relationships (0.78) and environment (0.85). Moreover, in this study, the reported norm for the scale was $\bar{x}$ = 95.53 and SD = 12.33. This study recorded Cronbach's alpha of 0.89 for the instrument.

Section C: Health-care Seeking Behaviour (HCSB)

Pregnant Women Health-care Seeking Behaviour Scale (PWHCSBS) was used to assess the HCSB of primigravidas. The scale is a 15-item questionnaire developed by the researcher. The stages of it development and validation were discussed ealier in section 3.2.9. Respondents are expected to indicate their agreement on reasons they seek health-care service in public (government) hospitals. The items on PWHCSBS were rated on a 4 point likert type scale of strongly Agree (4), Agree (3), Disagree (2) and Strongly Disagree (1). Examples of items of this scale include: 'I seek for health-care in public hospital because I want to receive quality health care'. 'I seek for health-care in public hospital because medical charges are affordable'. The scores range between 15 and 60. The scores of the primigravidas in PWHCSBS are determined by adding the scores of the items. A total score above the mean indicates good HCSB while a total score below the mean indicates poor HCSB. The internal consistency reliability of the scale (PWHCSBS) was confirmed by using Cronbach's alpha reliability. The Cronbach's alpha reliability co-efficient for this scale was 0.99. The norm of the scale is $\bar{x}$ = 46.76 and SD = 12.92 therefore scores at or above the reported norm indicates good HCSBS and vice-versa.

Section D: Sleep Quality

Sleep quality was evaluated using Pittsburgh Sleep Quality Index (PSQI) developed by Buysse, Reynolds, Monk, Berman and Kupfer (1989). It was considered the most reliable instrument used to assess sleep quality. It is a self-report assessment of sleep quality consisting of open ended and likert response formats. It is made up of 19 items out of which 18 are utilized to determine scores. The PSQI yields seven components (i.e. subscales) scores: sleep latency, sleep disturbances, sleep duration, day time dysfunction, use of medication, habitual sleep efficiency and subjective sleep quality. Examples of items of this scale include: 'How many hours of actual sleep did you get at night?' 'How often have you had trouble sleeping because you have to go to use the bathroom?' Every

component is estimated on a scale of 0-3 and the score range is between 0-21. Respondents who have PSQI scores below five were identified as good sleepers while those who scores above or equal to five were categorised as poor sleepers. The PSQ1 had strong Cronbach's alpha reliability of 0.80 (Carpenter & Andrykowski, 1998) and 0.83 (Buysse et.al. 1989). Moghaddam, Nakhaee, Sheibani, Garrusi and Amirkafi (2011) reported the following alpha levels for each components of PSQ1: sleep latency (0.72), Habitual sleep efficiency (0.72), sleep duration (0.78), use of medications (0.76), sleep disturbances (0.78), day time dysfunction (0.74) and subjective sleep quality (0.70). The reported norm of the scale in the current study is $\bar{x}$ = 4.88 and SD = 2.74 therefore scores at or above the reported norm indicates poor sleepers and vice-versa. This study recorded Cronbach's alpha of 0.85 for the instrument.

Section E: Pregnancy-specific Stress

The Revised Prenatal Distress Questionnaire was utilized to evaluate pregnancy-specific stress. The revised prenatal distress questionnaire is a self-report scale designed by Yali and Lobel (1999) to identify prenatal distress in pregnant women. It was developed to examine particular concerns and worries related to pregnancy. The scale entails items on worries concerning medical challenges, bodily changes, physical symptoms, labour and childbirth, parenting relationships as well as the well being of the fetus (Yali, et al., 1999).

Respondents are expected to select if they are presently feeling concerned, worried or upset regarding various areas of pregnancy. It is a 17 items instrument with 3- point scale that ranged from "not at all" (0) to "very much" (2). Scores are between 0 and 34. Higher score mean higher pregnant women prenatal distress (Lobel, 2008a & b). The overall Nu-PDQ score was reported to yield the Cronbach's alpha 0.80 and 0.81 (Alderdice et al., 2011; Plues et al., 2010. The reported norm of the scale in the current study is recorded as $\bar{x}$ = 10.51 and SD = 6.92. This study recorded Cronbach's alpha of 0.87 for the instrument.

Section F: Coping Styles

Coping styles was measured using Revised Prenatal Coping Inventory (NuPCI). It was designed to evaluate coping styles during pregnancy. Yali and Lobel (1999) developed a

36- item of prenatal coping inventory (PCI) while Hamilton and Lobel (2008) included more questions to the initial PCI, thereby making it a 42- items measure of Nu-PCI. The scale allows respondents to indicate how frequent they use certain coping technique in the past months to cope with stress and various challenges during pregnancy. It consists of a five-point Likert scale ranging from 0 to 4 (0 = never; 1= almost never; 2= sometimes; 3= fairly often; 4 = very often). Thus the scores range is between 0-168. It is used for the evaluation of stress adaptation strategies in pregnant women. The Nu-PCI has 42 items which are group into three coping subscales; planning/preparation coping with 17 items, avoidance coping with 19 items and positive/spiritual coping with 6 items. Examples of items of this scale include: 'how often have you imagine how birth will go?' 'how often have you tried to keep your feeling about being pregnant to yourself?'. Hamilton et al. (2008) reported cronbach's alpha in the first trimester, second as well as third trimester of pregnancy reported to be 0.82, 0.85 and 0.86 for planning/preparing; 0.78, 0.79 and 0.8 for avoidance coping and 0.73, 0.78 and 0.77 for positive/spiritual coping respectively. In the current study, $\bar{x}$ and SD scores reported for the domains are $\bar{x}$ = 33.14, SD =11.43 (planning/preparation coping), $\bar{x}$ = 30.74, SD = 10.98 (avoidance coping) and $\bar{x}$ = 15.40, SD = 5.62 (positive/spiritual). This study recorded Cronbach's alpha of 0.91 for the instrument.

Translation of Instruments

All scales were interpreted from the original English version into Yoruba language. The questionnaire was taken to experts in Linguistics for the interpretation of the questionnaires from English version to Yoruba version. The questionnaire was also back-translated from Yoruba version to English for accuracy of test items.

3.3.8. Procedure

The research data was collected after the approval of the University of Ibadan/University College Hospital Ethics Committee (UI/UCHEC), Social Sciences and Humanities Ethics Committee (SSHEC) and Oyo State Ethical Review Committee (OSRERC). Their respective assigned numbers were UI/EC/19/0043, UI/SSHEC/2017/0030 and AD13/479/1171. In addition, a letter that introduces the researcher was obtained from the

Psychology Department of University of Ibadan to the Chief Medical Director of each hospital where the study took place. This is to facilitate the process of acceptance and collection of data with research participants. The researcher was able to gain the support of the health workers in the antenatal section (Doctors, Matrons, Nurses, and Health record officers) and administration of the questionnaire was conducted during the antenatal clinic days. For smooth running of data collection, three research assistants were trained to join the researcher. The researcher gets to the hospital before the antenatal clinic starts and seeks for permission to address the pregnant women who were present from the matron on duty.

Thereafter, the researcher explained the aim, importance and the target population of the study (i.e primigravidas) to the women. Pregnant women who indicated that they were primigravidas and consented, participated in the study. To ensure confidentiality, the researcher did not include participants' names on the questionnaire but use only mobile number for identification of individual respondent. The participants were informed by the researcher of the need to follow the instruction strictly and they were encouraged to respond accurately, honestly and promptly to the instruments. The self-report questionnaire administered required only 15-20 minutes to be completed. Some primigravidas did not participate because they did not have time to do so. The process took four (4) months before the researcher could get the estimated sample size. A total of 825 were retrieved from participants while 768 were valid for data analyses.

3.3.9. Data Analysis Technique

The hypothesis of this study were analysed with the aid of statistical package for social sciences (SPSS) version 20. Hypothesis 1 was tested with the use of stepwise multiple regression, hypothesis 2 and 3 with one-way ANOVA and hypotheses 4, 5 and 6 with t-test.

3.4.   Phase Three: Experimental Phase

This phase employed the quasi-experimental method. The goal of this phase was to test the efficacy of psychoeducation in improving HRQoL among primigravidas. The cross-sectional phase determines the participants for this phase.

3.4.1. Design

In this phase, pretest-posttest control group experimental design which allow careful selection of experimental and control groups through appropriate randomization procedures was adopted to examine the efficacy of psychoeducation in enhancing HRQoL of primigravidas. The pretest-posttest control group experimental design is a design that enables the researcher randomly assigns study participants in at least two group of intervention modality and compares participant groups measuring the level of change that may occur due to the intervention administered.

The diagrammatical expression of the experimental design is presented in table 3.3.

Table 3.3.   Experimental Design of the Study

Groups		Pretest	Treatment	Posttest
Experimental Group	R	0_1	X_1	0_2
Control Group	R	0_3	X_0	0_4

Key: R= Randomization

0_1 = Pretest of Experimental group

0_2 = Posttest test of Experimental group

0_3 = Pretest of Control group

0_4 = Posttest of Control group

X_1 = Treatment (Psychoeducation intervention for participants in

the experimental group only)

X_0 = No treatment (for participants in Control Group)

The participants were grouped into experimental and control groups in agreement with the plan of the study. The experimental group received pretest, the psychoeducation and posttest, that is, (Pretest + Intervention + Posttest) while the control group was given pretest and posttest without any psychoeducation (No treatment) that is (Pretest + Posttest). This implies that both groups were pre-tested and post-tested. The main effect of the psychoeducation was compared between the experimental and control groups to determine the extent to which the intervention had significance on the experimental group.

3.4.2. Study Setting

Specialist Hospital Jericho, Ibadan was used in this phase. The hospital is one of the hospitals used for collection of data at the second phase (cross sectional survey) of the study. This was employed as one of the measure used to control extraneous variables that can invalidate the results of the psychoeducation. This hospital was selected because many respondents at this center had poor HRQoL. Also majority of the concerned primigravidas contacted from this hospital agreed to participate in the intervention. The hospital has a particular day every week for antenatal lectures only. They have Monday as the antenatal clinic day while Friday (tagged "Mother-craft" day) was set aside for antenatal lecture only.

3.4.3. Participants

The participants at this phase were primigravidas in the second trimester, who reported poor HRQoL at the baseline data (survey phase). Those in the second trimester of pregnancy were selected so as to sustain a homogeneous group and control extraneous variable.

3.4.5. Inclusion and Exclusion Criteria

Inclusion criteria

i. Primigravidas who scored below the mean in World Health Organization Quality of life (WHOQOL-BREF) scale without compromising anonymity and confidentiality.
ii. Respondent from the previous phase who consented to continue with the study
iii. Respondents in the second trimester of pregnancy.

Exclusion criteria

i. Primigravidas who did not participate in the previous phase
i. Primigravidas who scored above the mean in World Health Organization Questionnaire Quality of life without compromising anonymity and confidentiality.
ii. Respondent from the previous phase who did not give their consent to continue with the study
iii. Respondents are not in the second trimester of pregnancy.

3.4.6. Sampling Technique

For the experimental phase, primigravidas identified to fit into the selection criteria (score below the mean in World Health Organization Questionnaire Quality of life) were selected. Simple random sampling technique was adopted to assign primigravidas who met inclusion criteria into either control or experimental group. Simple random sampling technique was considered adequate because it gave equal chance to participants to fall into either control or experimental group without bias. To achieve this even and odd numbers were used. Those who picked even numbers were grouped into the experimental group while those who picked odd numbers were selected for the control group. Thus, respondents were randomized into one of the two groups: experimental group (fifteen participants) and control group (fifteen participants).

3.4.7. Instrument and measure for experimental study

The questionnaire employed during the second phase of the study was administered to participants in the experimental phase at pretest and also administered at posttest.

Psychoeducational Intervention: The Psychoeducation for primigravidas (PEP) module was used for the intervention. The PEP module was developed based on the finding from the baseline study, articles, and information resources related to the studies (Azogh, Shakiba & Navidian, 2018; Missler, Beijers & Denissen, 2018). It incorporates the factors implicated at the survey phase. The goal is to empower participants to improve their HRQoL. PEP is a six weeks training that comprises of six modules and each module has different sessions. The training duration was between forty to fifty minutes per session with two sessions per week. Each module include different sessions with the following activities such as opening discussion, discussion about the purpose of the session, the session topic, the week's assignment and closing.

Table 3.4. Showing the outline of the modules used for psychoeducation for primigravidas

MODULE	SESSIONS AND ACTIVITIES

ONE
 	
Introduction, Aims and Objectives of Psychoeducation
	Session 1
	Activities:
	  i. Welcome address
	  ii. Interactive session (General Interaction)
	  iii. Setting of ground rules
	  iv. Training goals, objectives andbenefits
	  v. Question and answer
	  vi. Administration of Pre-test
	Session 2
	
	Activities:
	
	  i. Review of previous work
	  ii. Explanation on the importance of HRQoL during gravidity
	  iii. Different aspects of health-related quality of life were discussed
	  iv. Assignment: Participants are to state the different aspects of their lives they are not having good HRQoL

	Session 3
	
	Activities:
	
	  i. Review of previous work and assignment
	  ii. Check in for the next session
	  iii. This session enlightened participants on the benefit of maintaining good HRQoL
	  iv. The training focuses on building participants' understanding on appropriate health-care seeking behaviour

TWO **(Psychoeducation on positive Health-Care Seeking Behaviour of Pregnant Women)**	v. It dwells on changing negative orientations participants might be having about seeking for health care during pregnancy vi. Identify the positive effect of health-care seeking vii. Question and answer viii. General interaction **Session 4** **Activities:** i. Review of previous work ii. Discussion on different types of behaviors exhibited by pregnant women and their outcomes on their quality of life iii. How to handle factors that might militate against effective health-care seeking behaviour iv. Importance of seeking information and sharing their health challenges with health professionals v. Benefits of sharing their health challenges with health professional vi. Question and answer vii. Assignment: Participants are to state reasons they seek for health care and the benefits they have gained from it.
	Session 5 **Activities:** i. Review of module two and session four assignment ii. Check in for the next session iii. The purpose of the module is to enhance the sleep quality of participants iv. The benefit of having good sleep quality v. Question and answer

THREE **(Psychoeducation on Improving Sleep Quality of primigravida)**	vi. General interaction **Session 6** **Activities:** i. Review of session five work ii. How to handle sleep disturbances iii. The strategies that can be used to improve sleep quality iv. Diet that can facilitate restful night sleep v. Question and answer vi. Group discussion vii. Assignment: Participants are to identify things that disrupt their night sleep and how they were able to adjust
FOUR **(Handling Pregnancy-Specific Stress)**	**Session 7** **Activities:** i. Review of module three and session six assignment ii. Checking for the next session iii. Identifying issues that can constitute stress during pregnancy iv. Understanding the effect of stress during pregnancy and the way it can influence their health-related quality of life viii. Question and answer ix. General interaction **Session 8** **Activities:** i. Review of session seven work ii. Participant were taught different ways to handle stressful experiences during pregnancy i. Question and answer

	ii. General interaction
	iii. Assignment: Participants are to enumerate stressful experiinces or situations they experience and how they are able to handle it.
FIVE **(Imbibing Healthy Coping Styles)**	**Session 9** **Activities:** i. Review of module four and session eight assignment ii. Check in for the next session iii. The researcher explain the importance of coping during pregnancy to the participants iv. She enlightened them on the various coping styles they can use during pregnancy v. Question and answer vi. General interaction **Session 10** **Activities:** i. Review of session nine work ii. The researcher explained further various coping styles to the participants to set priorities and making issues concerning their health during pregnancy iii. Question and answer iv. General interaction v. Assignment: Participants was asked to enumerate coping styles they are using.
	Session 11 **Activities:** i. Review of module five and session ten assignment

SIX **Summary and Conclusion of the Psychoeducation** **and** **Administration of Posttest**	ii. Check in for the next session iii. Summary: the psychoeducation will be concluded by giving a summary of major issues discussed during the course of the training. iv. Question and answer v. General interaction vi. Assignment: Participants was asked to read and practice what they have learnt **Session 12** **Activities:** i. Review of previous works ii. Interactive session iii. Posttest: The posttest was administered to the participants vii. Closing: The intervention programme was terminated by disengaging the participants.

3.4.8. Procedure

The hospital with the highest occurrence of primigravidas with poor HRQoL was selected for this phase. In addition, participants for this phase were primigravidas in their second trimester who reported poor HRQoL. The identified respondents were contacted through the mobile number on their questionnaire. Meeting was arranged with those who showed interest in the study to further discuss on the purpose and modality of the study with them. Out of fifty-five respondents with poor HRQoL in the setting for this phase, only thirty (15 in experimental group and 15 in control group) participated and completed the training sessions. The researcher sought the permission of the matron and was given an hour and forty minutes (fifty minutes before the normal antenatal lecture and fifty minutes after it) to meet the concerned respondents and carry out the intervention. Simple random sample was used to assign the thirty respondents who made the first appointment into experimental and control group. Psychoeducation was assigned to participants in experimental group alongside the usual ANC while the control group receives ANC only. Those who participated in this phase were encouraged not to disclose any information they were given in the groups that they belong. Participants in the experimental group were exposed to psychoeducation for primigravidas training with two sessions per week. Each session lasted for about fifty minutes and undertakened for six weeks. Both the participants in experimental and control groups were assessed at the beginning and end of the intervention. A snack was provided to each participant at each session.

3.4.9. Data Analysis

Three hypotheses were stated for this phase of the study and were tested using statistical package for social science version 20. Hypotheses 4, 5 and 6 were analysed with t-test statistical technique.

3.4.10. Control of Extreneous Variables

In order to ensure that all extraneous variables were accounted for, the researcher made use of randomization. This is to ensure biases did not set in during selection of

participants. Participants were randomly assigned to experimental and control groups. This assisted in assigning participants characteristics that could confound the result of the intervention carried out. Moreover the researcher sought the cooperation of the health workers (at the antenatal section of Jericho Specialist Hospital) and participants to avoid intrusion throughout the duration of the training. Participants in the experimental group were instructed not to disclose the deliberation within the group to those in the control group. Refreshment were given to participants with everyone offered equal opportunities. This was to avoid favouritism and biases in catering for study participants.

3.5. Ethical Considerations

Across the phases of the study, the researcher followed norms and standard expected in the conduct of research. Specifically, the following were observed:

Ethical approval from Institutional review board
Research proposal information and associated documents for application were submitted to the Oyo State Ethical Review Committee (OSRERC), University of Ibadan/University College Hospital Ethics Committee (UI/UCHEC) and Social Sciences and Humanities Ethics Committee (SSHEC). After review and necessary observations raised and effected, ethical approval was given with respective assigned numbers of AD13/479/1171, UI/EC/19/0043 and UI/SSHEC/2017/0030.

Informed consent
At every phase of the study, prospective participants were communicated the aim of the research. The anticipated risks and benefits of participating, confidentiality regarding information given and records taken, compensation that was available to all participants, their rights to participate as well as discontinue if they so choose without consequences, and who they could contact with any questions even after the research, were all explained to participants. The participants gave consent to participate.

Confidentiality
This principle of restriction of access to participants' information was adhered to. All the questionnaires used were handled only by researcher and research assistants. The

questionnaires were also filled without identification in terms of names. The form of identification that connected participants' response across the phases of the study was their mobile number written on each questionnaire they filled. Also all questionnaires and consent forms are kept in a safe locker where only the researcher has access to. Every information will be reported as a group and not by the individual.

Beneficence/Non – maleficence

The research protocol and procedures were designed and carried out in such a way to adhere to these principles. In every way possible, all forms of harm or injury to participants were minimised and research was targeted at benefiting participants as well as increasing knowledge that could be beneficial to entire populace.

Control group participants

The control group also had poor HRQoL but was not given psychoeducation training; it raises ethical issues to withhold treatment from the group. To remedy this, after the posttest, control group participants were exposed to an hour psychoeducation to assist with their poor HRQoL, but outcome data was not sought from them as the research project had ended

CHAPTER FOUR

RESULTS

This chapter reports the results of the data analysis. The study empirically examined health-care seeking behaviour, coping styles, sleep quality, and pregnancy-specific stress as predictors of HRQoL and the efficacy of psychoeducation among primigravidas. Within this chapter, qualitative results, socio-demographic features of the respondents were provided and results of the hypotheses tested were summarized. Results are reported in the following sections:

Table 4.1. Key themes from FGD, KII and IDI

S/N	Themes	Sub-themes
1.	Problem relating to HRQoL among pregnant women	Stress Feeling tired Having low energy Physical symptoms like vomiting,swollen leg and pains Meeting the financial needs of pregnancy
2.	Psychological factors influencing HRQoL among pregnant women	Fear of child birth Lack of sleep at night Feeling drowsy during the day Feeling anxous Fatigue
3.	Handling challenges of pregnancy	Tried to focus on good things Trust in God Ask health professionals questions Pray for strength
4.	Reasons for attending public hospital	To get quality medical care To have safe delivery To know the condition of health

4.2. Socio-demographic Characteristics

The participants' socio-demographic information is captured and presented as a summary in Table 4.1.

Table 4.2: Socio-Demographic Characteristics

S-Demographic Characteristics	Levels	Frequency	Percent
Age	18-21years	48	6.3
	22-25years	173	22.5
	26-29years	271	35.3
	30-33years	196	25.5
	34-37years	76	9.9
	38-41years	4	.5
Total		**768**	**100**
Educational Qualification	No Formal Education	19	2.5
	Primary School	115	15.0
	Secondary School	209	27.2
	OND/NCE	189	24.6
	HND/University Degree	236	30.7
Total		**768**	**100**
Marital Status	Single	150	19.5
	Married	601	78.3
	Divorced	10	1.3
	Living apart	7	0.9
Total		**768**	**100**
Religion	Christianity	418	54.4
	Islam	271	35.3
	Traditional Religion	79	10.3
Total		**768**	**100**
Ethnicity	Ibo	72	9.4
	Yoruba	634	82.5
	Hausa	32	4.0
	Others	30	3.9
Total		**768**	**100**
Pregnancy Duration	1-3Months	123	16.0
	4-6Months	327	42.6
	7-9Months	318	41.4
Total		**768**	**100**
Occupation	Housewife	92	12.0
	Farming	65	8.5
	Trading	225	29.3
	Teaching	146	19.0
	Student	37	4.8
	Civil servant	38	4.9
	Artisan	110	14.3
	Unemployed	55	7.2
Total		**768**	**100**

Table 4.1 reveals that out of 768 participants, 48 (6.3%) were between 18- 21 years, 173 (22.5%) were between 22- 25 years, 271 (35.3%) were between 26- 29 years, 196 (25.5%) were between 30- 33 years, 76 (9.9%) and 4 (0.5%) were between 34-37 years and 38- 41 years, respectively. Out of this number, 19 (2.5%) had no formal education (NFE), 115 (15.0%) had a primary school certificate (PS), 209 (27.2%) had a secondary school certificate (SS), 189 (24.6%) had an OND/NCE certificate and 236 (30.7%) had an HND/University degree (UD). Distribution by marital status shows that, 150 (19.4%) were single, 601 (78.3%) were married, 10 (1.3%) were divorced and 7 (0.7%) were living apart. Distribution of respondents by religion reveals that 418 (54.4%) of the respondents practice Christianity, 271 (35.3%) practice Islam and 79 (10.3%) practice traditional religion.

With regards to their ethnicity, 72 (9.4%) of the respondents were Ibo, 634 (82.5%) were Yoruba, 32 (4.2%) were Hausa and 30 (3.9%) of the respondents were from other ethnic groups. Duration of pregnancy distribution shows 123 (16%) of the respondents' pregnancy were between 1-3 months, 321 (42.6%) were between 4-6 months and the remaining 318 (41.4%) were between 7-9 months. The table shows that 92 (12.0%) of the respondents were housewives, 65 (8.5%) were farmers, 146 (19.0%) were teachers, 225 (29.3%) were traders, 37 (4.8%) were students, 38 (4.9%) were civil servants, 110 (14.3%) were artisans and 55 (7.2%) were unemployed.

Figure 4.1: Pie chart showing the frequency distribution of participants by age
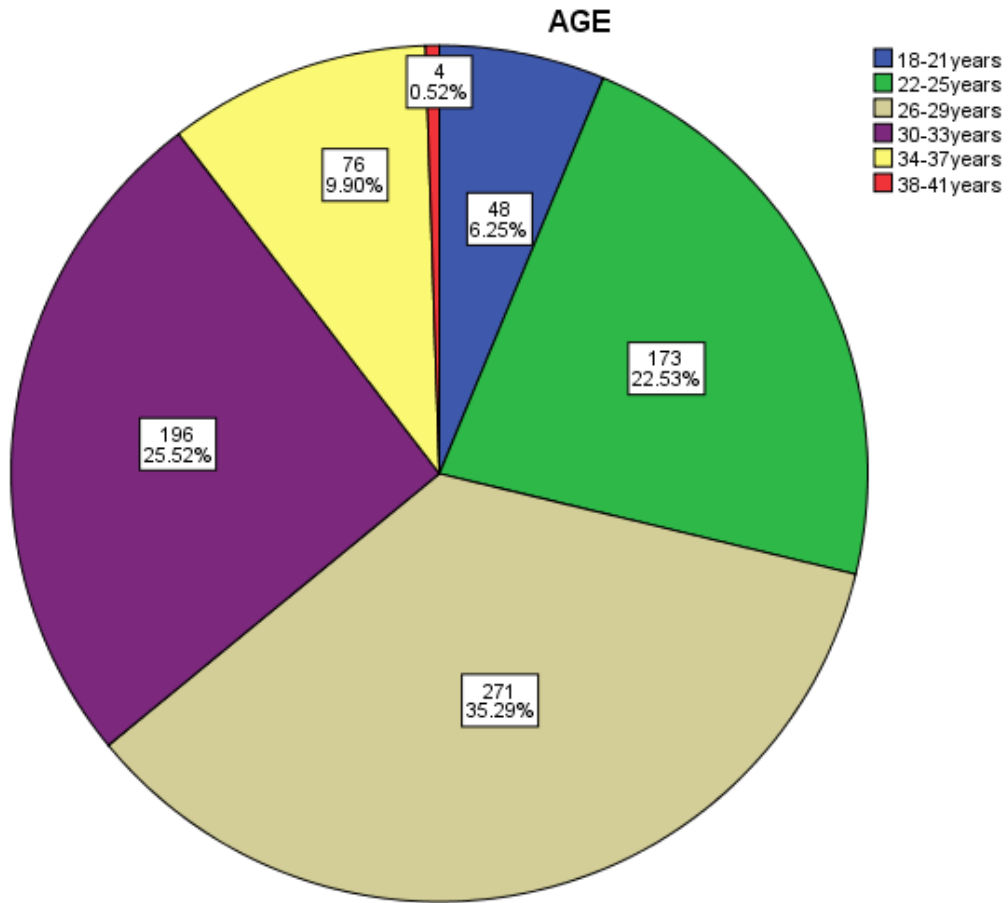
Figure 4.1 reveals that 48 (6.3%) of the respondents were between 18- 21 years, 173 (22.5%) were between 22- 25 years, 271 (35.3%) were between 26- 29 years, 196 (25.5%) were between 30- 33 years, 76 (9.9%) and 4 (0.5%) were between 34-37 years and 38- 41 years, respectively.

Figure 4.2: Pie chart showing the frequency distribution of participants by educational qualification

Educational Qualification

Legend:
- No Formal Education
- Primary School
- Secindary School
- OND/NCE
- HND/University Degree

19
2.47%

115
14.97%

236
30.73%

209
27.21%

189
24.61%
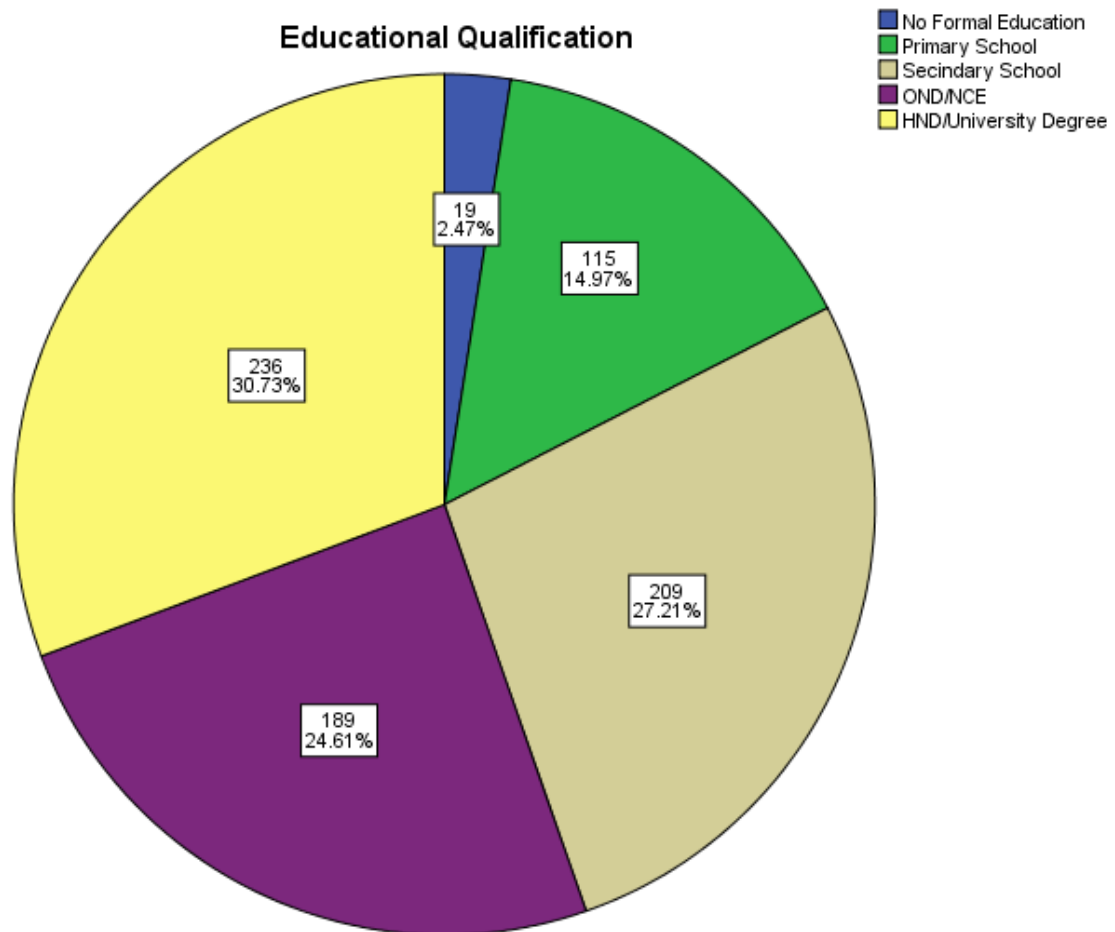
Figure 4.2 shows that 19 (2.5%) of the respondents had no formal education (NFE), 115 (15.0%) had a primary school certificate (PS), 209 (27.2%) had a secondary school certificate (SS), 189 (24.6%) had an OND/NCE certificate and 236 (30.7%) had an HND/University degree (UD).

Figure 4.3: Bar chart showing the respondents frequency distribution according to marital status
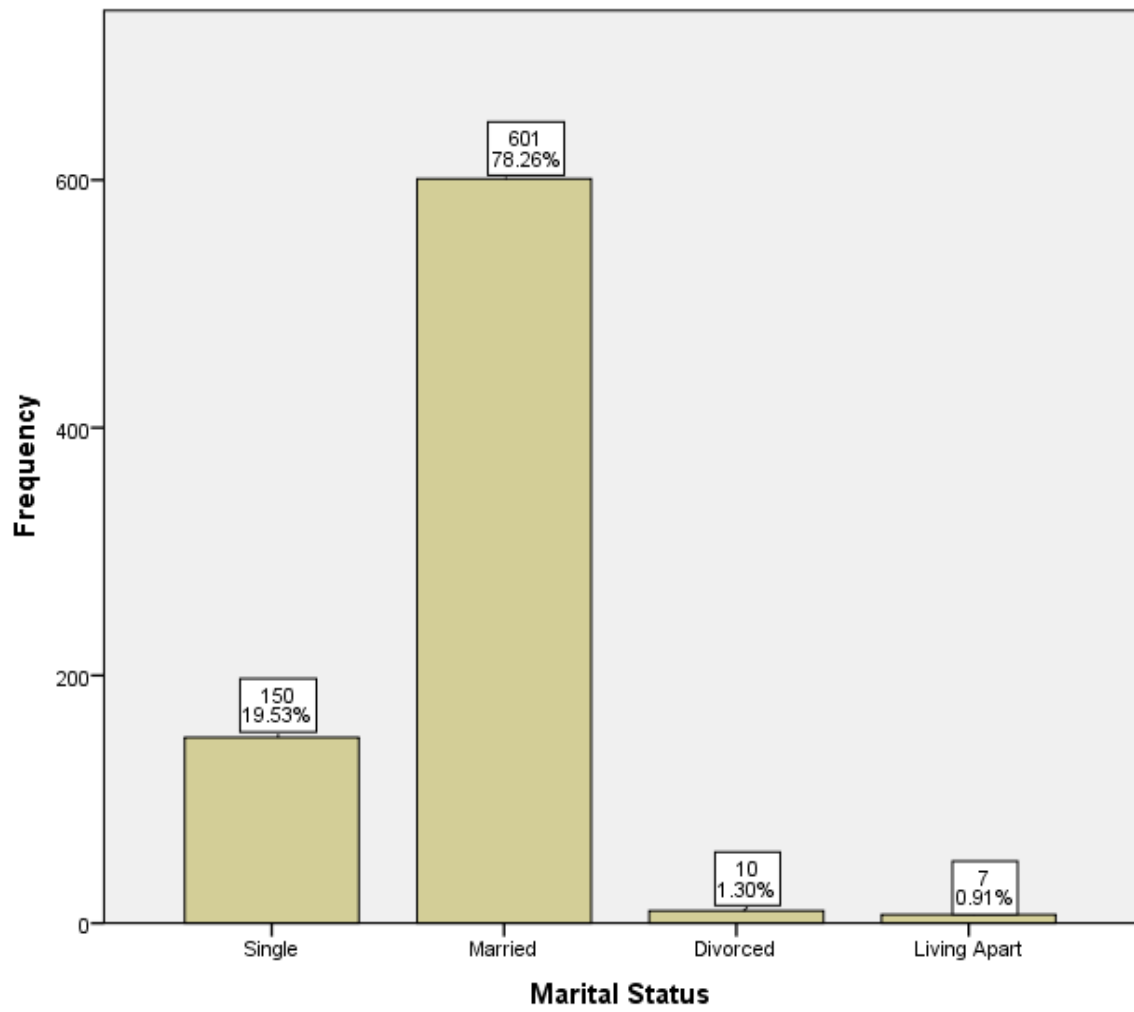
Figure 4.3 reveals that out of the seven hundred and sixty-eight (768) participants, one hundred and fifty (150, 19.4%) were single, six hundred and one (601, 78.3%) were married, ten (10, 1.3%) were divorced and seven (7, 0.7%) were living apart.

Figure 4.4: Pie chart showing the frequency distribution of participants by occupation
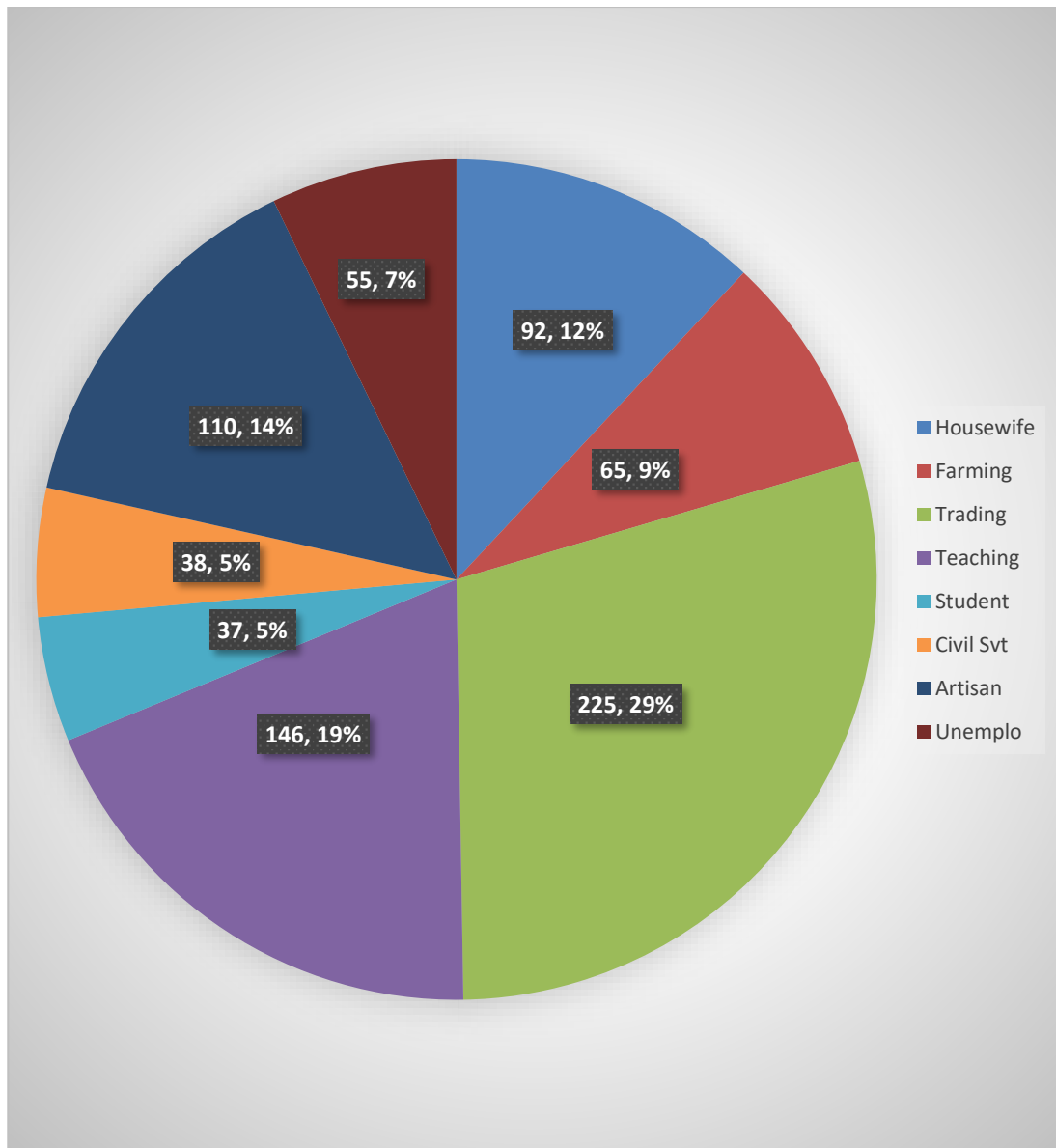
Figure 4.7 shows that 92 (12.0%) of the respondents are housewives, 65 (8.5%) were farmers, 146 (19.0%) were teachers, 225 (29.3%) were traders, 37 (4.8%) were students, 38 (4.9%) were civil servants, 110 (14.3%) were artisans and 55 (7.2%) were unemployed.

4.3. Zero Order Correlation

A zero order correlation was conducted using multiple correlation analysis in order to ascertain the level of inter-correlations or inter-associations among the study variables. The results are in Table 4.3 below. The variables in the model were measured on a continuum to accommodate a multiple correlation analysis. Coping style was however coded as a dummy variable based on its dimensions (1 = religious coping styles and 0 = other coping styles).

Table 4.3: Zero Order Correlation for Study Variables

	1	2	3	4	5	6	7	8
1. HCSB	1							
2. Sleep Quality	.054	1						
3. PSS	-.018	.233**	1					
4. Coping Style	.083*	.211**	.343**	1				
5. Age	-.051	.048	-.033	.002	1			
6. Edu. Qualification	.152**	-.033	-.030	.085*	.077*	1		
7. Pregnancy Duration	.019	-.063	-.077*	-.096*	-.023	.325**	1	
8. HRQoL	.230**	-.060	-.093**	.158**	.042	.202**	.083*	1

Note:

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

HCSB = Health-care Seeking Behaviour

PSS = Pregnancy-specific Stress

HRQoL = Health-related Quality of Life

Edu. Qualification= Educational Qualification

Results from Table 4.3 show that HRQoL among primigravidas had significant positive correlations with health-care seeking behaviour (r = .230; p<.01), coping style (r = .158; p<.01), age (r = .042; p<.05), educational qualification (r = .202; p<.01) and pregnancy duration (r = .083; p<.05). The result implies that higher levels of HRQoL among primigravidas is connected with increased propensity to seek health-care in public health care facilities, higher dependence on spiritual coping styles, higher educational qualification and longer duration of pregnancy.

Conversely, HRQoL among primigravidas had significant negative correlations with pregnancy-specific stress (r = -.093; p<.01). The result implies that a lower level of HRQoL among primigravidas is related with increased levels of pregnancy-specific stress.

4.4. Hypothesis Testing

Six hypotheses were formulated and tested using appropriate statistics. Results of the hypotheses testing are shown below:

4.4.1. Hypothesis One

Health-care seeking behaviour, sleep quality components, pregnancy-specific stress and coping style domains would jointly and independently predict HRQoL among primigravidas.

The hypothesis was tested using stepwise multiple regression (SMR) analysis and the results are presented in Table 4.4.

Table 4.4: Stepwise multiple regression analysis showing the influence of health-care seeking behaviour, sleep quality components, pregnancy-specific stress and coping style domains on HRQoL

	β	t-value	Sig.	R^2	Adj. R^2	F	Sig. (P)
Model 1							
Health-care Seeking Behaviour (HCSB)	.230	6.538	<.01	.053	.052	42.747	<.01
Model 2							
Health-care Seeking Behaviour (HCSB)	.238	6.748	<.01				
Subjective Sleep Quality (SSQ)	-.082	-2.313	<.05				
Sleep Latency (SL)	.021	.588	>.05				
Sleep Duration (SD)	-.033	-.942	>.05				
Habitual Sleep Efficiency (HSE)	-.037	-1.065	>.05	.059	.057	24.142	<.01
Sleep Disturbance (SDist.)	.097	2.665	<.01				
Use of Medication (UOM)	-.067	-1.875	>.05				
Daytime Dysfunction (DD)	-.058	-1.569	>.05				
Model 3							
HCSB	.213	6.014	<.01				
SSQ	-.098	-2.698	<.01				
SL	.007	-.201	>.05				
SD	-.028	-.785	>.05				
HSE	-.049	-1.395	>.05	.070	.066	19.135	<.01
SDist.	.100	2.737	<.01				
UOM	-.073	-2.035	<.05				
DD	-.084	-2.315	<.05				
Pregnancy-specific Stress (PSS)	-.115	-3.181	<.01				
Model 4							
HCSB	.027	5.774	<.01				
SSQ	-.053	-1.406	>.05				
SL	.014	.390	>.05				
SD	-.018	-.489	>.05				
HSE	.032	-.891	>.05				
SDist.	.079	2.038	<.05	.112	.107	21.956	<.01
UOM	-.027	-.684	>.05				
DD	-.077	-2.107	<.05				
PSS	-.109	-2.955	<.01				
Planning & Preparation (PP)	.061	1.199	>.05				
Avoidance Coping (AC)	.005	.113	>.05				
Positive/Spiritual Coping (P/SC)	.223	6.109	<.01				

	Model 1	Model 2	Model 3	Model 4
R^2 Change	.053	.007	.009	.006
F- Change	42.747	5.350	7.493	4.437
Df_1 and Df_2	1, 766	2, 764	3, 763	1, 694
Sig. of F-Change (P)	P<.01	P<.05	P<.01	P<.05

Result from model 1 of table 4.4 reveals that, the predictor variable of health-care seeking behaviour (HCSB) significantly independently predict HRQoL of primigravidas (β = .230; t = 6.538, P < .01). Hence, the R^2 value of 0.053 ($F_{(1,766)}$ = 42.747; R^2 = .053; p<.01) indicates that HCSB independently accounts for about 5.3% of the percentage variance change observed in HRQoL among primigravidas ($F\Delta_{(1, 766)}$ = 42.747; $R^2\Delta$ = .053; $P\Delta$ < .01).

In model 2, sleep quality components was introduced into the regression model in order to observe its specific contribution to HRQoL of primigravidas, and the results show that HCSB and sleep quality components (SQCs) significantly jointly predict HRQoL of primigravidas ($F_{(2,764)}$ = 24.142; R^2 = .059; p<.01). This implies that the introduction of SQCs increased the percentage variance to 5.9% indicating that SQCs contributed a significant 0.6% of the variance of change observed in HRQoL among primigravidas ($F\Delta_{(1, 765)}$ = 5.350; $R^2\Delta$ = .007; $P\Delta$ < .05). The results also reveal that, HCSB (β = .238; t = 6.748, P < .01), subjective sleep quality ((β = -.082; t = -2.313, P < .05) and sleep disturbance ((β = .097; t = 2.665; P < .01) independently significantly predict HRQoL among primigravidas.

In model 3, the pregnancy-specific stress was introduced to the regression model in order to observe its specific contribution to HRQoL of primigravidas, and the results reveal that HCSB, SQCs and pregnancy-specific stress significantly jointly predict HRQoL of primigravidas ($F_{(3,763)}$ = 19.135; R^2 = .070; p<.01). This implies that the introduction of pregnancy-specific stress increased the percentage variance to 7% indicating that pregnancy-specific stress contributed a significant 1.1% of the variance of change observed in HRQoL among primigravidas ($F\Delta_{(1, 763)}$ = 7.493; $R^2\Delta$ = .009; $P\Delta$ < .01). Also, HCSB (β = .213; t = 6.014, P < .01); subjective sleep quality (β = -.098; t = -2.698, P < .05); sleep disturbance ((β = .100; t = 2.737, P < .01); daytime dysfunction (β = -. 084; t = -2.315, P < .05); and pregnancy-specific stress (β = -.115; t = -3.181, P < .01) independently significantly predict HRQoL among primigravidas.

In model 4, the three domains of coping style were introduced into the regression model with results showing an increase in the significant joint influence of the variables on

HRQoL among primigravidas ($F_{(4, 694)}$ = 21.956; R^2 = .112; p<.01). This implies that the introduction of coping style domains increased the percentage variance to 11.2%, indicating that coping style domains contributed a significant 4.2% of the variance of change observed in HRQoL among primigravidas ($F\Delta_{(1, 694)}$ = 4.437; $R^2\Delta$ = .006; PΔ < .05).

The study further reveals that, HCSB (β = .207; t = 5.774, P < .01), sleep disturbance (β = .079; t = 2.038, P < .05), daytime dysfunction (β = -.077; t = -2.107, P < .05), PSS (β = -.109; t = -2.955, P < .01) and positive/spiritual coping (β = .223; t = 6.109, P < .01) independently significantly predict HRQoL among primigravidas. Thus, the stated hypothesis one is therefore partially confirmed.

Table 4.5: Stepwise multiple regression analysis showing the influence of health-care seeking behaviour, sleep quality components, pregnancy-specific stress and coping style domains on physical health domain of HRQoL.

	β	t-value	Sig.	R^2	Adj. R^2	F	Sig. (P)
Model 1							
HCSB	.146	4.071	<.01	.021	.020	16.575	<.01
Model 2							
HCSB	.144	4.039	<.01				
SSQ	-.094	-2.623	<.01				
SL	-.033	-.914	>.05				
SD	.005	.130	>.05				
HSE	-.100	-2.807	<.05	.031	.029	12.292	<.01
SDist.	.072	1.996	<.05				
UOM	-.065	-.1823	>.05				
DD	-.081	-2.292	<.05				
Model 3							
HCSB	.141	4.001	<.01				
SSQ	-.078	-2.169	<.05				
SL	-.022	-.602	>.05				
SD	.006	.155	>.05				
HSE	-.107	-3.017	<.05	.046	.043	12.383	<.01
SDist.	.113	3.051	<.01				
UOM	-.042	-1.152	>.05				
DD	-.059	-1.645	>.05				
PSS	-.124	-3.494	<.01				
Model 4							
HCSB	.123	3.387	<.01				
SSQ	-.079	-2.144	<.05				
SL	-.038	-1.029	>.05				
SD	.013	.360	>.05				
HSE	-.098	-2.686	<.05				
SDist.	.076	1.958	<.05	.094	.088	16.832	<.01
UOM	-.029	-.794	>.05				
DD	-.073	-1.974	<.05				
PSS	-.156	-4.244	<.01				
PP	-.031	-.605	>.05				
AC	-.085	-1.178	>.05				
P/SC	.209	5.655	<.01				

	Model 1	Model 2	Model 3	Model 4
R^2 Change	.021	.010	.011	.006
F- Change	16.575	7.881	9.105	4.595
Df_1 and Df_2	1, 766	1, 764	1, 763	1, 693
Sig. of F-Change (P)	P<.01	P<.01	P<.01	P<.05

Result from model 1 of table 4.5 reveals that, the predictor variable of health-care seeking behaviour (HCSB) significantly independently predict physical domain of HRQoL (PHRQoL) of primigravidas (β = .146; t = 4.071, P < .01). Hence, the R^2 value of 0.021 (F $_{(1,766)}$ = 16.575; R^2 = 0.021; p <.01) indicates that HCSB independently accounted for about 2.1% of the percentage variance change observed in PHRQoL among primigravidas (FΔ $_{(1, 766)}$ = 16.575; $R^2\Delta$ = .010; PΔ < .01).

In model 2, sleep quality components was introduced into the regression model in order to observe its specific contribution to PHRQoL of primigravidas, and the results show that HCSB and sleep quality components (SQCs) significantly jointly predict PHRQoL among primigravidas (F $_{(2,764)}$ = 12.292; R^2 = .031; p<.05). This implies that the introduction of SQCs increased the percentage variance to 3.1% indicating that SQCs contributed a significant 1% of the variance of change observed in PHRQoL among primigravidas (FΔ $_{(1, 764)}$ = 7.881; $R^2\Delta$ = .010; PΔ < .01;). The results also reveal that, HCSB (β = .144; t = 4.039, P < .01), subjective sleep quality (β = -.094; t = -2.623, P < .01), sleep efficiency ((β = .100; t = -2.807; P < .01), sleep disturbance (β = .72; t = 1.996, P < .05) and daytime dysfunction (β = -.081; t = -2.292, P < .05) independently significantly predict PHRQoL among primigravidas.

In model 3, the pregnancy-specific stress was introduced to the regression model in order to observe its specific contribution to PHRQoL of primigravidas, and the results reveal that HCSB, SQCs and pregnancy-specific stress significantly jointly predict PHRQoL of primigravidas (F $_{(3,763)}$ = 12.383; R^2 = .046; p<.05). This implies that the introduction of pregnancy-specific stress increased the percentage variance to 4.6% indicating that pregnancy-specific stress contributed a significant 1.5% of the variance of change observed in PHRQoL among primigravidas (FΔ $_{(1, 763)}$ = 9.105; $R^2\Delta$ = .01; PΔ < .01;).

Also, HCSB (β = .141; t = 4.001, P < .01); subjective sleep quality (β = -.078; t = -2.169, P < .05); sleep efficiency (β = -.107; t = -3.017, P < .05), sleep disturbance (β = .113; t = 3.051, P < .01) and pregnancy-specific stress (β = -.124; t = -3.494, P < .01) independently significantly predict PHRQoL among primigravidas.

In model 4, the three domains of coping style were introduced into the regression model with results showing an increase in the significantly jointly influence on PHRQoL among primigravidas ($F_{(4, 694)} = 16.832$; $R^2 = .094$; P<.01). This implies that the introduction of coping style domains increased the percentage variance to 9.4%, indicating that coping style domains contributed a significant 4.8% of the variance of change observed in PHRQoL among primigravidas($F\Delta_{(1, 693)} = 4.595$; $R^2\Delta = .006$; $P\Delta < .05$;).

The study further revealed that, HCSB ($\beta = .123$; $t = 3.387$, $P < .01$), subjective sleep quality ($\beta = -.079$; $t = -2.144$, $P < .05$), sleep efficiency ($\beta = -.098$; $t = -2.686$, $P < .05$), sleep disturbance ($\beta = .076$; $t = 1.958$, $P < .05$), daytime dysfunction ($\beta = -.073$; $t = -1.974$, $P < .05$), PSS ($\beta = -.156$; $t = -4.244$, $P < .01$) and positive/spiritual coping ($\beta = .209$; $t = 5.655$, $P < .01$) independently significantly predict PHRQoL among primigravidas. Thus, the stated hypothesis is partially confirmed.

Table 4.6: Stepwise multiple regression analysis showing the influence of health-care seeking behaviour, sleep quality components, pregnancy-specific stress and coping style domains on psychological domain of HRQoL.

	β	t-value	Sig.	R^2	Adj. R^2	F	Sig. (P)
Model 1							
Health-care Seeking Behaviour	.175	4.921	<.01	.031	.029	24.217	<.01
Model 2							
HCSB	.173	4.883	<.01				
SSQ	-.066	-1.757	>.05				
SL	.078	2.170	<.05				
SD	.039	1.096	>.05				
HSE	-.006	-.177	>.05	.047	.043	16.284	<.01
SDist.	.047	1.274	>.05				
UOM	-.063	-1.618	>.05				
DD	-.101	-2.856	<.01				
Model 3							
HCSB	.171	4.866	<.01				
SSQ	-.056	-1.495	>.05				
SL	.085	2.378	<.05				
SD	.038	1.079	>.05				
HSE	-.012	-.349	>.05	.062	.057	14.673	<.01
SDist.	.078	2.083	<.05				
UOM	-.046	-1.192	>.05				
DD	-.077	-2.156	<.05				
PSS	-.119	-3.320	<.01				
Model 4							
HCSB	.159	4.322	<.01				
SSQ	-.054	-1.385	>.05				
SL	.076	2.047	>.05				
SD	.045	1.215	>.05				
HSE	-.006	-.167	>.05				
SDist.	.054	1.366	>.05	.080	.073	13.953	<.01
UOM	-.032	-.800	>.05				
DD	-.087	-2.324	<.05				
PSS	-.140	-3.717	<.01				
PP	.086	1.673	>.05				
AC	-.002	-.036	>.05				
P/SC	.144	3.862	<.01				

	Model 1	Model 2	Model 3	Model 4
R^2 Change	.031	.006	.007	.006
F- Change	24.217	4.710	5.655	4.189
Df_1 and Df_2	1, 766	1, 763	1, 762	1, 693
Sig. of F-Change (P)	P<.01	P<.05	P<.05	P<.05

Result from model 1 of table 4.6 reveals that, the predictor variable of health-care seeking behaviour (HCSB) significantly independently predict psychological domain of HRQoL (PsyHRQoL) of primigravidas (β = .175; t = 4.921, P < .01). Hence, the R^2 value of .031 ($F_{(1,766)}$ = 24.217; R^2 = .031; p<.01) indicates that HCSB independently accounted for about 3.1% of the percentage variance change observed in PsyHRQoL among primigravidas ($F\Delta_{(1, 766)}$ = 24.217; $R^2\Delta$ = .031; PΔ < .01).

In model 2, was introduced into the regression model in order to observe its specific contribution to PsyHRQoL of primigravidas, and the results show that HCSB and sleep quality components (SQCs) significantly jointly predict PsyHRQoL of primigravidas ($F_{(2, 764)}$ = 16.284; R^2 = .047; p<.01). This implies that the introduction of SQCs increased the percentage variance to 4.7% indicating that SQCs contributed a significant 1.6% of the variance of change observed in PsyHRQoL among primigravidas ($F\Delta_{(1, 763)}$ = 4.710; $R^2\Delta$ = .006; PΔ < .05). The results also reveal that, HCSB (β = .173; t = 4.883, P < .01), sleep latency ((β = .078; t = -2.170, P < .05) and daytime dysfunction (β = -.101; t = -2.856; P < .01) independently significantly predict PsyHRQoL among primigravidas.

In model 3, the pregnancy-specific stress was introduced to the regression model in order to observe its specific contribution to PsyHRQoL of primigravidas, and the result revealed that HCSB, SQCs and pregnancy-specific stress) significantly jointly predict PsyHRQoL of primigravidas ($F_{(3,763)}$ = 14.673; R^2 = .062; p<.01). This implies that the introduction of pregnancy-specific stress increased the percentage variance to 6.2% indicating that pregnancy-specific stress contributed a significant 1.5% of the variance of change observed in PsyHRQoL among primigravidas ($F\Delta_{(1, 762)}$ = 5.655; $R^2\Delta$ = .007; PΔ < .01). Also, HCSB (β = .171; t = 4.866; P < .01); sleep latency (β = .085; t = -2.378; P < .05); sleep disturbance ((β = .078; t = 2.083; P < .05); daytime dysfunction (β = -.077; t = -2.316; P < .05); and pregnancy-specific stress (β = -.119; t = -3.320; P < .01) independently significantly predict PsyHRQoL among primigravidas.

In model 4, the three domains of coping style were introduced into the regression model with result showing an increase in the significantly jointly influence on PsyHRQoL among primigravidas ($F_{(4, 694)}$ = 13.953; R^2 = .080; P<.01). This implies that the introduction of

coping style domains increased the percentage variance to 8.0%, indicating that coping style domains contributed a significant 1.8% of the variance of change observed in PsyHRQoL among primigravidas (F$\Delta_{(1, 694)}$ = 4.189; $R^2\Delta$ = .006; PΔ < .05). The study further revealed that, HCSB (β = .159; t = 4.322; P < .01), sleep latency (β = .076; t = 2.047, P < .05), daytime dysfunction (β = -.087; t = -2.324; P < .05), PSS (β = -.140; t = -3.717, P < .01) and positive/spiritual coping (β = .144; t = 3.862; P < .01) independently significantly predict PsyHRQoL among primigravidas. Thus, the stated hypothesis is partially confirmed.

Table 4.7: Stepwise multiple regression analysis showing the influence of health-care seeking behaviour, sleep quality components, pregnancy-specific stress and coping style domains on social relationships domain of HRQoL

	β	t-value	Sig.	R^2	Adj. R^2	F	Sig. (P)
Model 1							
Health-care Seeking Behaviour	.182	5.110	<.01	.033	.032	26.110	<.01
Model 2							
HCSB	.182	5.106	>.01				
SSQ	.029	-8.20	>.05				
SL	-.018	-.510	>.05				
SD	.034	.957	>.05				
HSE	-.027	-.771	>.05	.033	.032	26.076	<.01
SDist.	-.013	-.373	>.05				
UOM	-.067	-.190	>.05				
DD	-.014	-.405	>.05				
Model 3							
HCSB	.182	5.106	<.01				
SSQ	.029	-8.20	>.05				
SL	-.018	-.510	>.05				
SD	.034	.957	>.05				
HSE	-.027	-.771	>.05	.033	.032	26.076	<.01
SDist.	-.013	-.373	>.05				
UOM	-.067	-.190	>.05				
DD	-.014	-.405	>.05				
PSS	-.053	-1.498	>.05				
Model 4							
HCSB	.182	4.874	<.01				
SSQ	.029	-.782	>.05				
SL	-.018	-.487	>.05				
SD	.034	.913	>.05				
HSE	-.027	-.736	>.05				
SDist.	-.013	-.356	>.05	.033	.032	23.758	<.01
UOM	-.067	-1.812	>.05				
DD	-.014	-.386	>.05				
PSS	-.053	-1.429	>.05				
PP	.065	1.733	>.05				
AC	.056	1.508	>.05				
P/SC	.073	1.954	<.05				

	Model 1	Model 2	Model 3	Model 4
R^2 Change	.033	.033	.033	.033
F- Change	26.110	26.076	26.076	23.758
Df_1 and Df_2	1, 766	1, 765	1, 763	1, 694
Sig. of F-Change (P)	P<.01	P<.01	P<.01	P<.01

Result from model 1 of table 4.7 revealed that, the predictor variable of health-care seeking behaviour (HCSB) significantly independently predict social relationships domain of HRQoL (SRHRQoL) of primigravidas (β = .182; t = 5.110; P < .01). Hence, the R^2 value of .033 ($F_{(1,766)}$ = 26.110; R^2 = .033; p<.01) indicated that HCSB independently accounted for about 3.3% of the percentage variance change observed in SRHRQoL among primigravidas ($F\Delta_{(1, 766)}$ = 26.110; $R^2\Delta$ = .033; $P\Delta$ < .01).

In model 2, sleep quality components was introduced into the regression model in order to observe its specific contribution to SRHRQoL of primigravidas, and the result showed that HCSB and sleep quality components (SQCs) significantly jointly predict SRHRQoL of primigravidas ($F_{(2, 764)}$ = 26.076; R^2 = .033; p<.01), which accounted for about 3.3% variance in SRHRQoL among primigravidas. This implies that the sleep quality components did not produce any specific significant contribution in addition to the percentage variance of change observed in SRHRQoL among primigravidas. The result also revealed that only, HCSB (β = .182; t = 5.110, P < .01) independently significantly predict SRHRQoL among primigravidas.

In model 3, the pregnancy-specific stress was introduced to the regression model in order to observe its specific contribution to SRHRQoL of primigravidas, and the result revealed that HCSB, SQCs and pregnancy-specific stress) significantly jointly predict SRHRQoL of primigravidas ($F_{(3,763)}$ = 26.076; R^2 = .033; p<.01) which accounted for about 3.3% variance in SRHRQoL among primigravidas. This implies that the HCSB, sleep quality components and pregnancy-specific stress did not produce any specific significant contribution in addition to the percentage variance of change observed in SRHRQoL among primigravidas. The result also revealed that only, HCSB (β = .182; t = 5.106, P < .01) independently significantly predict SRHRQoL among primigravidas.

In model 4, the three domains of coping style were introduced into the regression model with result showing the significantly jointly influence on SRHRQoL among primigravidas ($F_{(1, 697)}$ = 23.758; R^2 = .033; P<.01) which accounted for about 3.3% variance in SRHRQoL among primigravidas. This implies that the HCSB, sleep quality components, pregnancy-specific stress and coping style domain did not produce any specific significant

contribution in addition to the percentage variance of change observed in SRHRQoL among primigravidas. The result also revealed that, HCSB (β = .182; t = 4.874; P < .01) and spiritual coping (β =.073; t = -1.954; P<.01) independently significantly predict SRHRQoL among primigravidas. Thus, the stated hypothesis is partially confirmed.

Table 4.8: Stepwise multiple regression analysis showing the influence of health-care seeking behaviour, sleep quality components, pregnancy-specific stress and coping style domains on environment domain of HRQoL

	β	t-value	Sig.	R^2	Adj. R^2	F	Sig. (P)
Model 1							
Health-care Seeking Behaviour	.207	5.865	<.01	.043	.042	34.396	<.01
Model 2							
Health-care Seeking Behaviour	.207	5.861	<.01				
Subjective Sleep Quality	-.032	-.900	>.05				
Sleep Latency	.016	.452	>.05				
Sleep Duration	-.041	-1.167	>.05				
Habitual Sleep Efficiency	.014	.387	>.05	.043	.042	34.351	<.01
Sleep Disturbance	.101	2.845	<.01				
Use of Medication	-.020	-.553	>.05				
Daytime Dysfunction	-.030	-.836	>.05				
Model 3							
HCSB	.192	5.393	<.01				
SSQ	-.062	-1.695	>.05				
SL	-.013	-.036	<.05				
SD	-.039	-.1.116	>.05				
HSE	.007	.201	>.05	.053	.051	21.383	<.01
SDist.	.101	2.845	<.01				
UOM	-.032	-.897	>.05				
DD	-.055	-1.531	>.05				
PSS	-0.10	-.273	>.05				
Model 4							
HCSB	.192	5.240	<.01				
SSQ	-.037	-1.015	>.05				
SL	.000	.011	<.05				
SD	-.034	-.921	>.05				
HSE	.024	.645	>.05				
SDist.	.065	1.721	>.05	.077	.074	28.993	<.01
UOM	-.015	-.405	>.05				
DD	-.047	-1.293	>.05				
PSS	-.013	-.344	>.01				
PP	.073	1.519	>.05				
AC	.063	1.389	>.05				
P/SC	.185	5.058	<.01				

	Model 1	Model 2	Model 3	Model 4
R^2 Change	.043	.010	.043	.034
F- Change	34.396	8.097	34.351	25.584
Df_1 and Df_2	1, 766	1, 763	1, 765	1, 694
Sig. of F-Change (P)	P<.01	P<.01	P<.01	P<.01

Result from model 1 of table 4.8 revealed that, the predictor variable of health-care seeking behaviour (HCSB) significantly independently predict environment domain of HRQoL (EHRQoL) of primigravidas (β = .207; t = 5.865, P < .01). Hence, the R^2 value of .043 ($F_{(1,766)}$ = 34.396; R^2 = .043; p<.01) indicated that HCSB independently accounted for about 4.3% of the percentage variance change observed in EHRQoL among primigravidas ($F\Delta_{(1, 766)}$ = 8.097; $R^2\Delta$ = .010; $P\Delta$ < .01).

In model 2, sleep quality components was introduced into the regression model in order to observe its specific contribution to EHRQoL of primigravidas, and the result showed that HCSB and sleep quality components (SQCs) significantly jointly predict EHRQoL of primigravidas ($F_{(2, 764)}$ = 34.351; R^2 = .043; p<.01) which accounted for about 4.3% variance in ERHRQoL among primigravidas. This implies that the HCSB and sleep quality components did not produce any specific significant contribution in addition to the percentage variance of change observed in ERHRQoL among primigravidas. The result also revealed that, only HCSB (β = .207; t = 5.861, P < .01) independently significantly predict EHRQoL among primigravidas.

In model 3, the pregnancy-specific stress was introduced to the regression model in order to observe its specific contribution to EHRQoL of primigravidas, and the result revealed that HCSB, SQCs and pregnancy-specific stress) significantly jointly predict EHRQoL of primigravidas ($F_{(3, 7634)}$ = 21.383; R^2 = .053; p<.01). This implies that the introduction of pregnancy-specific stress increased the percentage variance to 5.3% indicating that pregnancy-specific stress contributed a significant 1.0% of the variance of change observed in EHRQoL among primigravidas ($F\Delta_{(1, 763)}$ = 8.097; $R^2\Delta$ = .010; $P\Delta$ < .01). Also, HCSB (β = .192; t = 5.393; P < .01) independently significantly predict EHRQoL among primigravidas.

In model 4, the three domains of coping style were introduced into the regression model with result showing an increase in the significantly jointly influence on EHRQoL among primigravidas ($F_{(4, 694)}$ = 28.993; R^2 = .077; P<.01). This implies that the introduction of coping style domains increased the percentage variance to 7.7%, indicating that coping style domains contributed a significant 2.4% of the variance of change observed in

EHRQoL among primigravidas ($F\Delta_{(1, 694)} = 25.584$; $R^2\Delta = .034$; $P\Delta < .01$). The study further revealed that, HCSB ($\beta = .192$; $t = 5.240$; $P < .01$), sleep latency ($\beta = .000$; $t = .011$, $P < .05$) and positive/spiritual coping ($\beta = .185$; $t = 5.058$; $P < .01$) independently significantly predict EHRQoL among primigravidas. Thus, the stated hypothesis is partially confirmed.

4.3.2. Hypothesis Two

Demographic variables would have significant influence on HRQoL among primigravidas. This hypothesis was tested using one-way analysis of variance (ANOVA).

Table 4.9a: Summary of One-way ANOVA showing the influence of age groups on health- related quality of life among primigravidas

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1982.479	5	396.496		
Within Groups	114664.349	762	150.478	2.635	.023
Total	116646.828	767			

Results from Table 4.9a show that age groups have significant influence on HRQoL among primigravidas ($F_{(5, 762)}$=2.635; p<.05). The result implies that the HRQoL varied significantly among the age groups of primigravidas. Thus, a post hoc analysis was carried out to ascertain the order of influence across the various age groups of the participants. Outcomes of the post hoc analysis are shown in Table 4.9b.

Table 4.9b: Multiple comparison showing least significant difference (LSD) of HRQoL across age groups

Age	1	2	3	4	5	6	Mean
1. 18 - 21 years		-6.32*	-6.44*	-6.03*	-5.84*	1.22	89.7292
2. 22 – 25 years			-.11	.29	.47	7.55*	96.0578
3. 26 – 29 years				.40	.59	7.66*	96.1697
4. 30 – 33 years					.18	7.26*	95.7602
5. 34 – 37 years						7.07*	95.5789
6. 38 – 41 years							88.5000

*. The mean difference is significant at the 0.05 level.

Results of mean ranking from Table 4.89b above, showed that primigravidas within ages 22 to 37 years recorded higher levels of HRQoL than their counterparts within ages 18-21 years and 38- 41 years.

Figure 4.5: Line graph showing mean of HRQoL of the respondents based on age
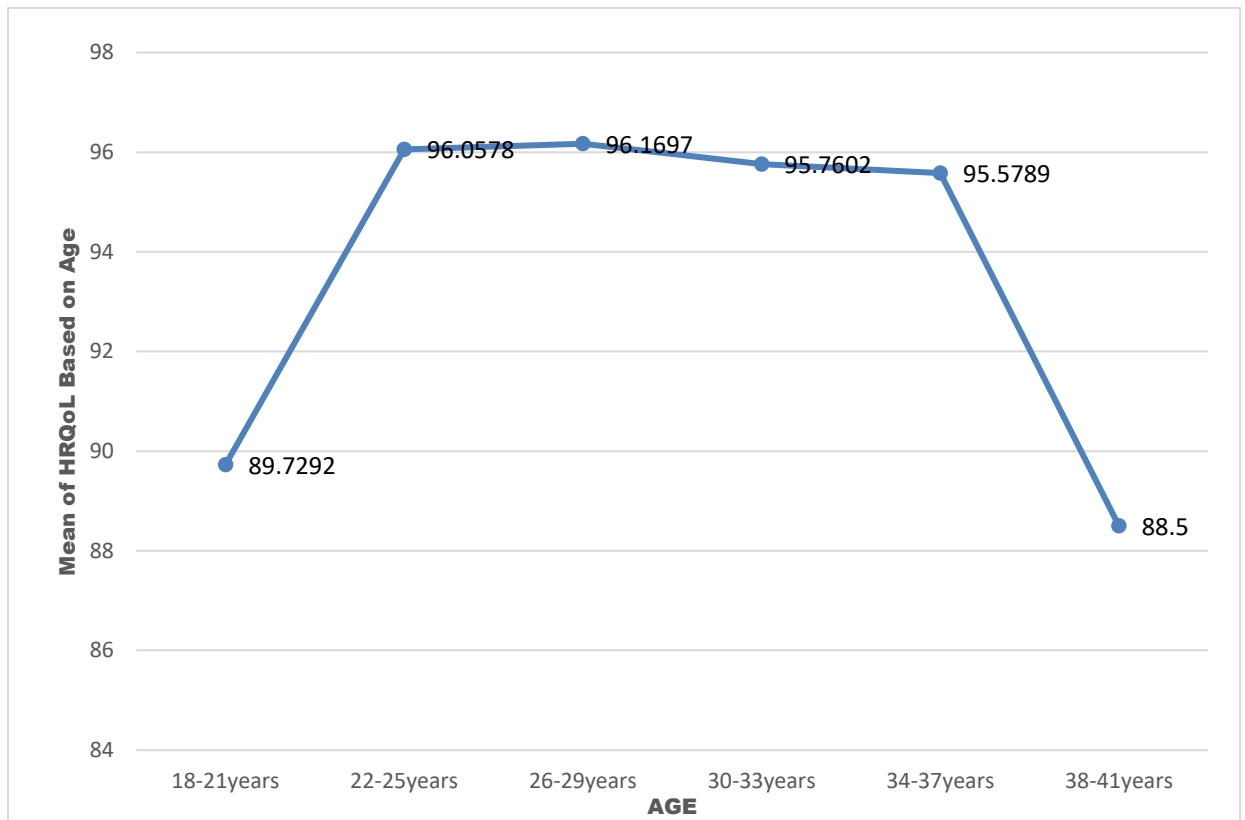
Figure 4.8 revealed that primigravidas within ages 26-29 years ranked 1st with mean rank of 96.17 while those within ages 22-25 years ($\overline{x}$=96.06), 30-33 years ($\overline{x}$=95.76) and 34-37 years ($\overline{x}$=95.58) ranked 2nd to 4th respectively. Furthermore, LSD results on HRQoL showed that mean differences that were greater than (or equal to) ±5.84 were significant at p<.05. The hypothesis stated is therefore supported.

Table 4.10a: Summary of one-way ANOVA showing influence of educational qualifications on HRQoL of primigravida

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	5151.054	5	1030.211		
Within Groups	111495.774	762	146.320	7.041	.000
Total	116646.828	767			

The outcome of data analysed in Table 4.10a revealed that there is a significant statistical influence of educational qualifications on HRQoL among primigravidas ($F_{(5, 762)}$=7.041; p<.01). The result implies that the HRQoL varied significantly across the educational qualifications of primigravidas. Therefore, a post hoc analysis was carried out to ascertain the order of influence across the various educational qualifications of participants. The outcomes of the post hoc analysis are shown in Table 4.10b below:

Table 4.10b: Multiple comparison showing least significant difference (LSD) of HRQoL across educational qualification of primigravidas

Educational Qualification	1	2	3	4	5	Mean
1. No Formal Education		-5.26	-6.31*	-7.71*	-10.74*	87.7368
2. Primary School			-1.05	-2.44	-5.48*	93.0000
3. Secondary School				-1.39	-4.43	94.0526
4. OND/NCE					-3.03	95.4474
5. HND/1st Degree						98.4861

*. The mean difference is significant at the 0.05 level.

Figure 4.6: Line graph showing mean of HRQoL of the respondents based on educational qualification
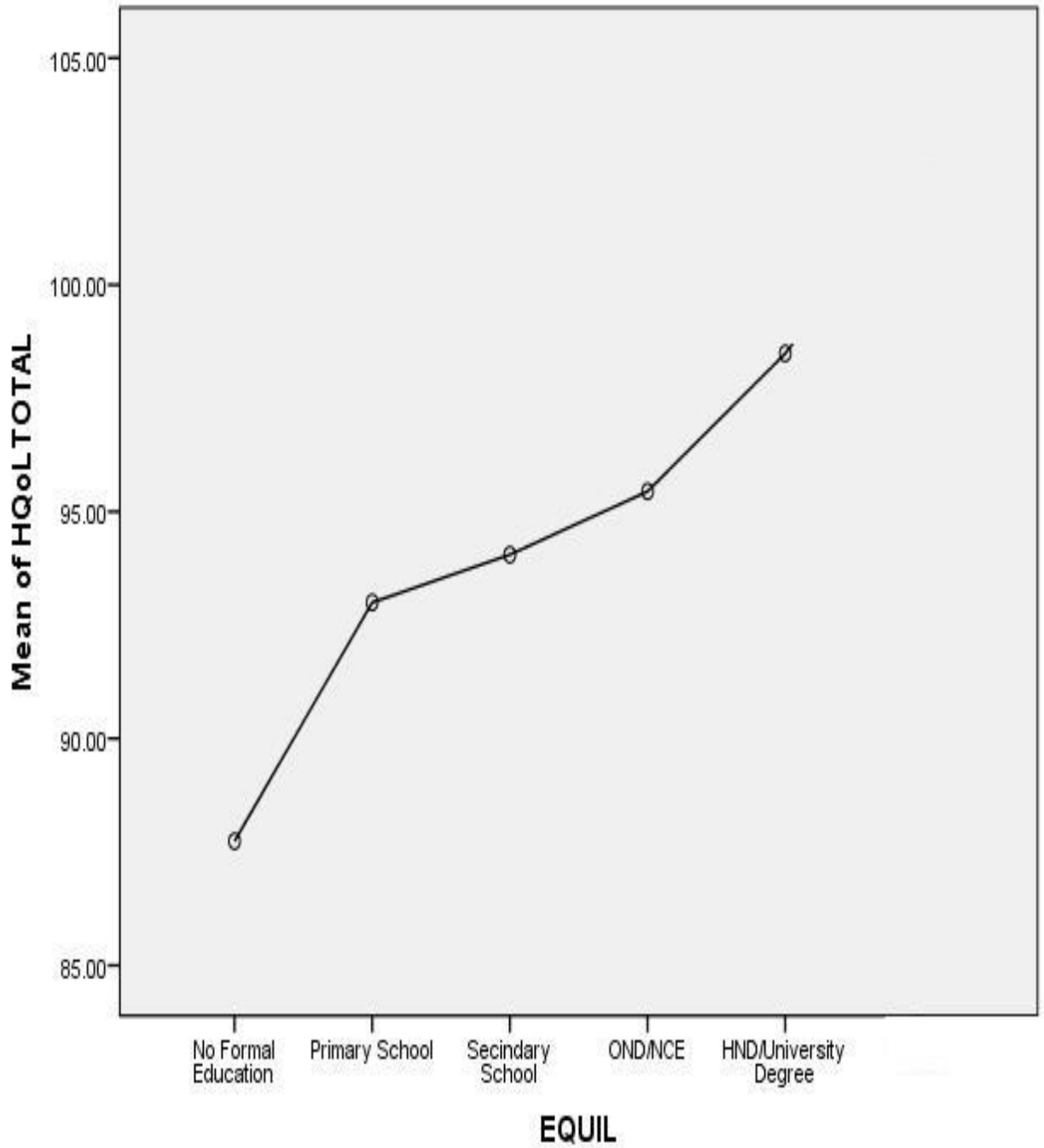
Results of mean ranking from Table 4.10b above and Figure 4.9, show that primigravidas with HND/Bachelor degrees reported the highest level of HRQoL ($\overline{x}$=98.48). Primigravidas with OND/NCE ($\overline{x}$=95.44), Secondary ($\overline{x}$=94.05) and Primary ($\overline{x}$=93.00) certificates ranked 2nd to 4th respectively in their levels of HRQoL. Primigravidas with no formal education reported the lowest level of HRQoL ($\overline{x}$=87.73). Furthermore, LSD results on HRQoL show that mean differences that were greater than (or equal to) ±5.48 were significant at p<.05. The hypothesis stated is therefore supported

Table 4.11a: Summary of one way ANOVA showing the influence of marital status on HRQoL of primigravidas

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	2155.173	4	538.793		
Within Groups	114491.656	763	150.055	3.591	.007
Total	116646.828	767			

Outcomes from Table 4.11a indicates that there is a significant statistical influence of marital status on HRQoL among primigravidas ($F_{(3, 763)}=3.591$; $p<.05$). The result implies that the HRQoL varied significantly across the marital status of primigravidas. Thus, a post hoc analysis was carried out to ascertain the order of influence across the various marital statuses of the participants. Outcomes of the post hoc analysis are shown in Table 4.11b

Table 4.11b: Multiple comparison showing least significant difference (LSD) of HRQoL across marital status

Marital Status	1	2	3	4	Mean
1. Single		-3.91	.406	-7.79*	92.4067
2. Married			4.31	-3.88	96.3195
3. Divorced				-8.20*	92.0000
4. Living apart					100.2000

*. The mean difference is significant at the 0.05 level.

Figure 4.7: Line graph showing mean of HRQoL of the respondents based on marital status
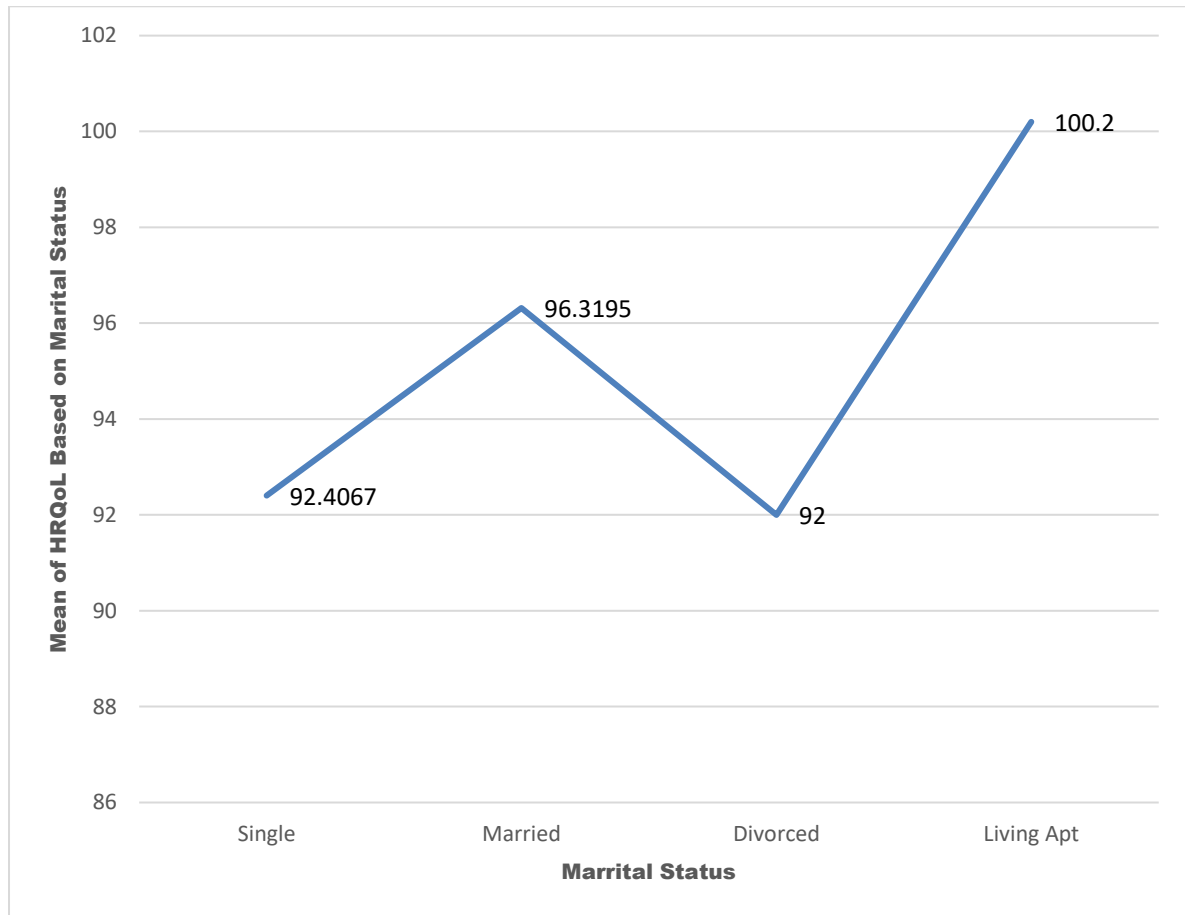
Key: Living Apt means Living Apart

Results of mean ranking from Table 4.11b and Figure 4.10 show that primigravidas who were living apart reported the highest level of HRQoL ($\bar{x}$=100.20). Primigravidas who were married ($\bar{x}$=96.31) and single ($\bar{x}$=92.40) ranked 2nd and 3rd respectively in their levels of HRQoL. Primigravidas who were divorced reported the lowest level of HRQoL ($\bar{x}$=92.00). Furthermore, LSD results on HRQoL revealed that mean differences that were greater than (or equal to) ±7.79 were significant at p<.05. The hypothesis stated was therefore supported.

4.3.3. Hypothesis Three

There would be a significant difference in HRQoL across the trimester stage of pregnancy among primigravidas.

The stated hypothesis was analysed utilizing one-way analysis of variance (ANOVA). Outcomes are revealed in Table 4.12.

Table 4.12: Summary of One-way ANOVA showing influence of trimester stage of pregnancy on HRQoL

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	834.424	2	417.212		
Within Groups	115812.404	765	151.389	2.756	.064
Total	116646.828	767			

Results from Table 4.12 show that no significant statistical difference in HRQoL across the trimester stage of pregnancy among primigravidas ($F_{(2, 765)}$ =2/756; P >.05). The results imply that the trimester stage of pregnancy among the participants had no significant influence on their HRQoL. The hypothesis stated is therefore rejected.

4.3.4. Hypothesis Four

Primigravidas in the experimental group would report a better HRQoL than those in the control group at pre-test. The stated hypothesis was analysed using t-test statistical method. Outcomes are shown in Table 4.13.

Table 4.13: Summary of t-test showing difference in HRQoL between experimental and control groups at pretest

	Group	N	Mean	Std. Dev.	Df	t	Sig
	Experimental	15	226.46	36.670			
Pretest					28	-.574	.570
	Control	15	238.53	72.65			

Results from Table 4.13 show that no significant difference exist in HRQoL in the experimental and control group among selected primigravidas at pretest (t (28) = .574; p>.05). The result implies that at pretest, primigravidas in the experimental group and their counterparts in control group reported similar levels of HRQoL. The hypothesis stated is therefore rejected.

Figure 4.8: Bar chart showing experimental condition of participants at pre-test stage
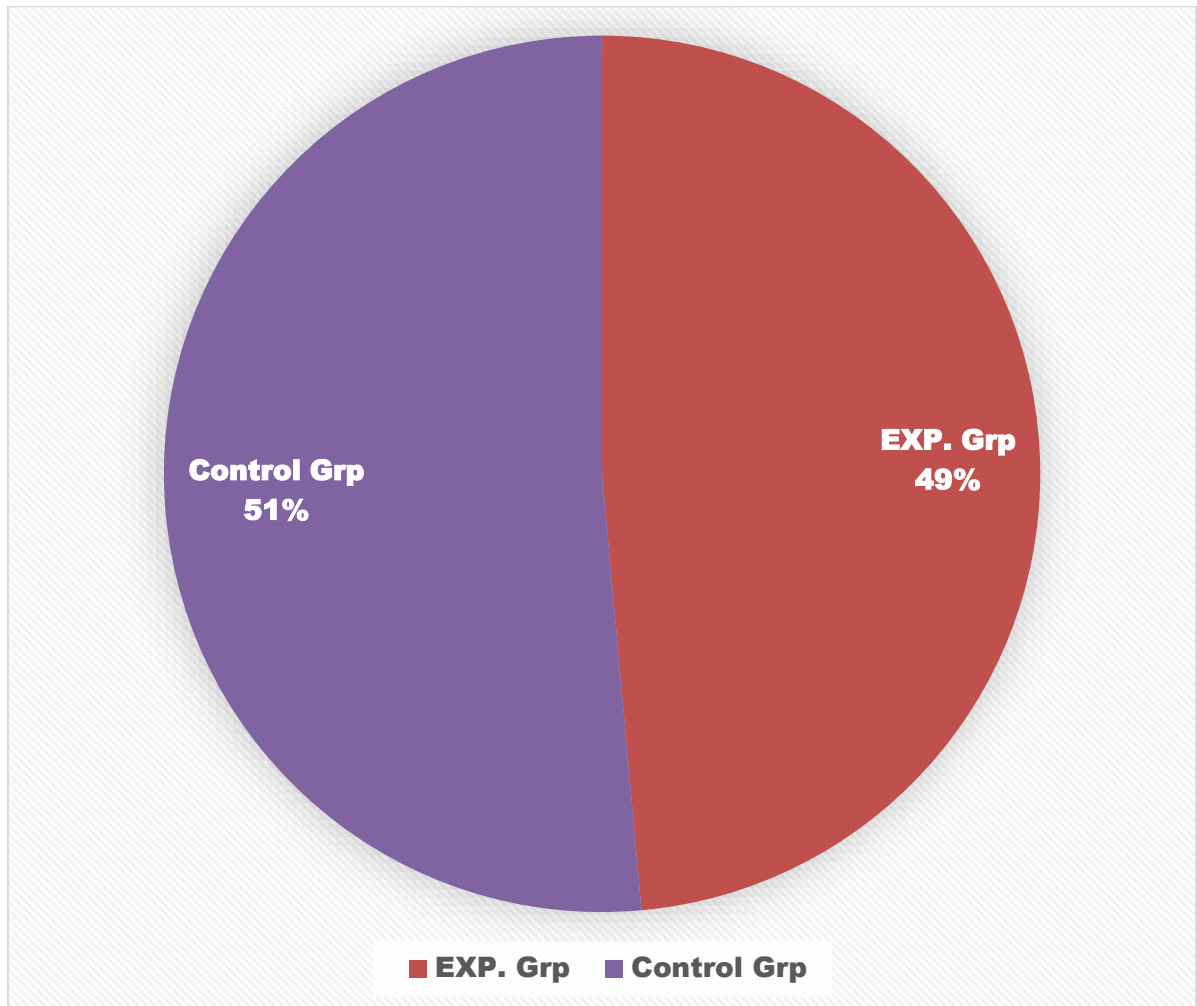
Figure 4.11 supported the analysis of t-test shown in table 4.12. From the figure 4.11 it is very clear that there is no significant difference in the HRQoL of primigravidas who participated in experimental study at pre-test stage of the intervention when psychoeducation had not been introduced.

4.3.5. Hypothesis Five

Primigravidas in the experimental group would report a better HRQoL than those in the control group at post-test. The stated hypothesis was analysed using t-test. Outcomes are shown in Table 4.14a.

Table 4.14a: Summary of t-test showing the difference in HRQoL between experimental and control groups at posttest

	Group	N	Mean	Std. Dev.	Df	t	Sig
	Experimental	15	264.93	41.33			
Posttest					28	2.182	.038
	Control	15	219.60	69.04			

Results from Table 4.14a show that a significant statistical difference exist in HRQoL between the experimental and control group among selected primigravidas at posttest $(t(28)=2.182; p<.05)$. The result implies that at posttest, primigravidas in the experimental group reported higher levels of HRQoL (Mean = 264.93) than their counterparts in the control group (Mean = 219.60). The result suggests that the higher difference recorded in HRQoL among primigravidas at posttests may be accounted for by the intervention (treatment). The hypothesis stated is therefore accepted.

Figure 4.9: Bar chart showing experimental condition of participants at post-test stage
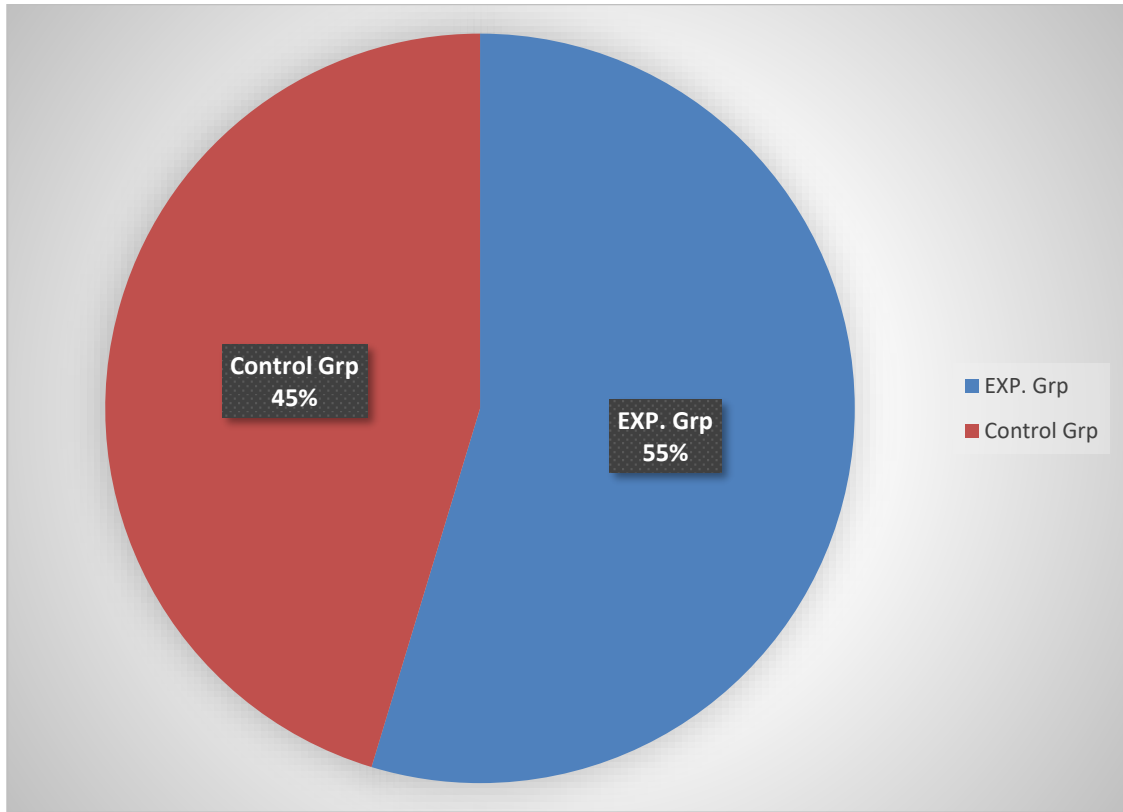
Figure 4.12 supports the t-test analysis shown in table 4.13a. This indicates that a significant difference exist in the HRQoL of primigravidas who were in experimental group with higher percentage of 55% than their counterparts in the control group with 45% at the post-test stage of the intervention. Only respondents in the experimental group were given intervention. Thus the stated hypothesis is confirmed.

Futher analysis was carried out to verify significant difference in the pretest and posttest of dependent variables. This was analysed with paired samples t-test. The outcomes are shown in Table 4.14b

Table 4.14b: Paired sample test showing mean difference of variables at pretest and posttest

Independent Variables	Mean	Paired Differences				t	df	Sig.
		Mean Difference	Std. Dev.	Std. Mean	Error			
HCSB(Pretest)	40.867	-9.933	-13.562	3.502		-2.837	14	.013
HCSB(Posttest)	50.800							
SQ (Pretest)	3.067	-1.933	2.268	.658		-2.938	14	.011
SQ (Posttest)	5.000							
PSS (Pretest)	3.867	-4.667	6.022	1.588		-2.939	14	.011
PSS (Posttest)	8.533							
CS (Pretest)	48.600	-33.533	35.727	9.224		-3.635	14	.003
CS (Posttest)	82.133							

Key: HCSB = Health Care Seeking Behaviour; SQ = Sleep Quality; PSS = Pregnancy Specific Stress; CS = Coping Styles and S = Significant (at 0.05 & 0.01 alpha level).

Table 4.14b presents outcomes of the paired sample t-test for the independent variables at pretest and posttest. Results from table revealed that there were higher significant difference in health-care seeking behaviour ($\overline{x}$ diff = -9.933; p<.05), sleep quality ($\overline{x}$ diff = - 1.933; p<.05), pregnancy-specific stress ($\overline{x}$ diff = -4.667; p<.05) and coping styles ($\overline{x}$ diff = -33.533; p<.01) of primigravidas at posttest. The results suggest that the higher difference recorded in health care seeking behaviour, sleep quality, pregnancy-specific stress and coping styles at posttest may be accounted for by the intervention (treatment).

4.3.6. Hypothesis Six

The hypothesis which stated that primigravidas who received psychoeducation would report better HRQoL considering the sub-domain (physical health, psychological, social relationships and environment) compared to the control group at post-test was analysed with t-test. The results are presented in Table 4.15

Table 4.15: Summary table of t-test showing the differences in the level of HRQoL between the experimental and control groups based on four domains of HRQoL at post-test stage.

HRQoL Domain	Group	N	Mean	S.D	Df	t-value	P-value
Physical health	EG	15	26.67	3.46	28	7.412	.000 (<.01)
	CG	15	16.40	4.10			
Psychological	EG	15	25.27	2.94	28	6.482	.000 (<.01)
	CG	15	17.27	3.77			
Social Relationships	EG	15	12.60	1.18	28	6.131	.000 (<.01)
	CG	15	9.40	1.64			
Environment	EG	15	31.33	3.18	28	7.344	.000 (<.01)
	CG	15	21.13	4.34			

Note: EG: Experimental Group; CG: Control Group

From the table 4.15, it was observed that a statistical higher significant effect of psychoeducation on physical health (t = Df 28, 7.412, p<.01), psychological (t = Df 28, 6.482, p<.01), social relationships (t = Df 28, 6.131, p<.01), and environment (t = Df 28, 7.344 p<.01). Primigravidas exposed to psychoeducation significantly reported better in physical, psychological, social relationships and environmental health of HRQoL compared to primigravidas in the control group. This indicated that psychoeducation training had higher significant influence on the sub-domains of HRQoL. Therefore, the hypothesis which stated that primigravidas who received psychoeducation would report better HRQoL considering the sub-domain (physical health, psychological, social relationships and environment) compared to the control group at post-test was fully supported. This is represented graphically in figure 12 below.

Figure 4.10: Bar chart graphs showing the differences between experimental and control groups on sub-domains (physical health, psychological, social relationships and environment) of HRQoL among primigravidas
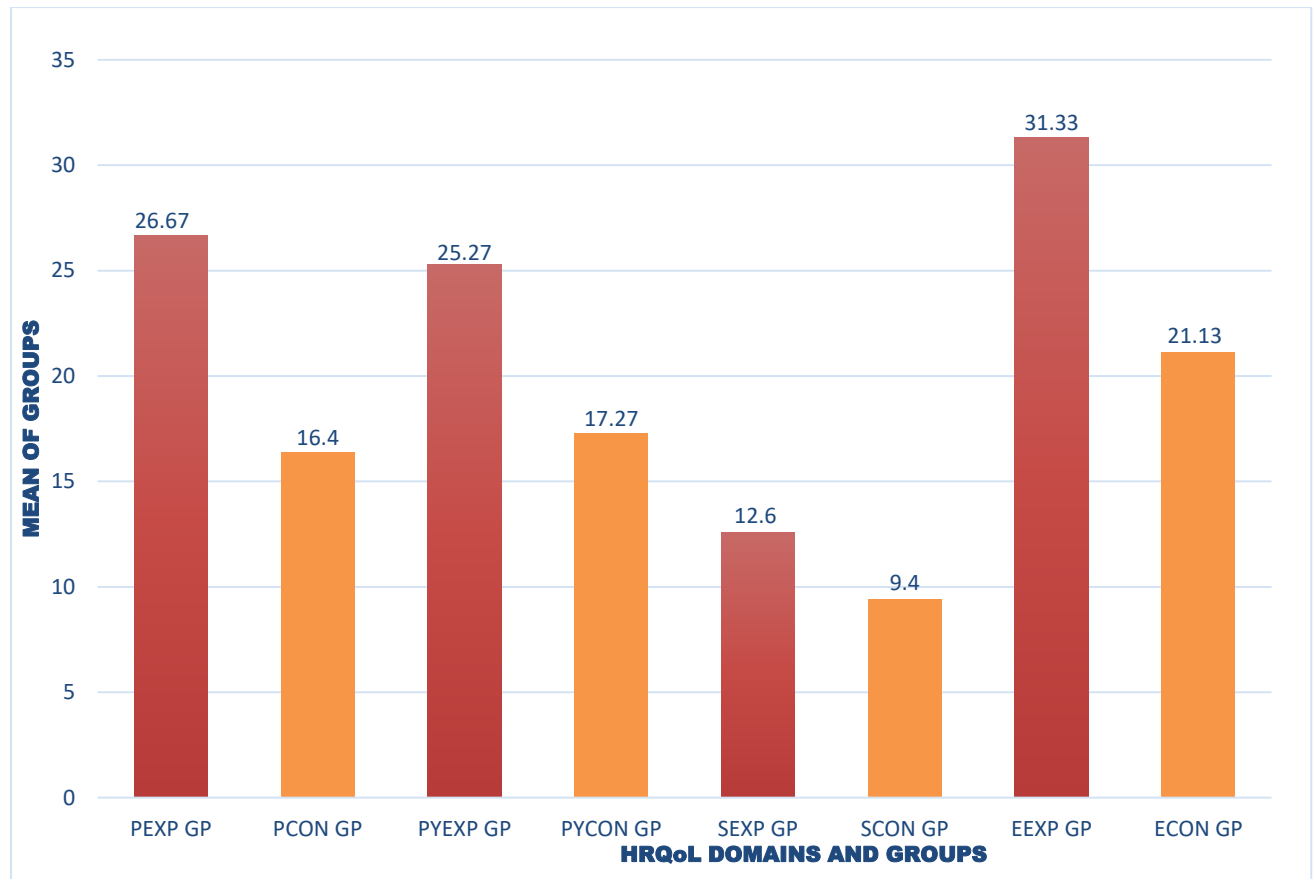
Key:

PEXP GP means Physical Health Domain Experimental Group

PCON GP means Physical Health Domain Control Group

PYEXP GP means Psychological Domain Experimental Group

PYCON GP means Psychological Domain Control Group

SEXP GP means Social Relationships Domain Experimental Group

SCON GP means Social Relationships Domain Control Group

EEP GP means Environment Domain Experimental Group

ECON GP means Environment Domain Control Group

Figure 4.13 is a graphical representation showing the efficacy of psychoeducation on sub-domains of HRQoL among primigravidas in experimental and control groups. The sub-domains are physical health (Mean = 26.67 & 16.4), psychological health (Mean = 25.27 & 17.27), social relationships (Mean = 12.6 & 9.4) and environment (Mean = 31.33 & 21.13). It is evident that psychoeducation was very effective because there was an increase in HRQoL in all sub-domains of experimental group compared to control group. This shows the efficacy of psychoeducation in enhancing HRQoL of primigravidas.

CHAPTER FIVE

DISCUSSION

5.1. Discussion

The results of the six hypotheses stated and tested in the study were discussed as follows:

Hypothesis one which states that health-care seeking behaviour, sleep quality components, pregnancy-specific stress and coping styles domains would have independent and joint predictions on HRQoL among primigravidas in Ibadan, was partially confirmed. The results showed that health-care seeking behaviour exerts a significant independent influence on HRQoL across the four models in table 4.3. This implies that health-care seeking behaviour was the only predictor variable that could cause significant changes in HRQoL on its own in the absence of other variables. It also means that the better the health-care seeking behaviour of primigravidas, the better their HRQoL. This result is supported by the report by Ganiyu, Kpokiri & Dambo (2017) on the existence of a correlation between undergraduate students' health-care seeking behaviour and their HRQoL. Similarly, Onoh, Umeora, Agwu, Ezegwui, Ezeonu & Onyebuchi (2012) in their study of the pattern of antenatal booking in southeatern Nigeria identified the relevance of health-care seeking behaviour among pregnant women. Primigravidas' patronize of health care facilities is based on factors like confidence in health care professionals, embarrassment in disclosing health issues and previous unsatisfactory encounters with health workers. The extent to which pregnant women value such health-care as well as their perceived susceptibility will influence their actions and lifestyles. In addition, if primigravidas realize that they are vulnerable to health issues through their behaviours, it could prompt them to seek health-care. The knowledge of the implications

of not seeking health care at the right place spurs her towards going for health care at the appropriate place.

Moreover, the result of stepwise regression analysis showed that subjective sleep quality, daytime dysfunction, sleep disturbance, pregnancy-specific stress and positive/spiritual coping had a statistically significant independent prediction on HRQoL. This result highlighted the importance of sleep quality components to the prediction of HRQoL. In particular, subjective sleep quality and sleep disturbance, which were significant in the second and third models. Daytime dysfunction was significant in the third and fourth models due to the inclusion of PSS and coping styles, respectively. While sleep disturbance remains significant in the fourth model, subjective sleep quality was not significant. This means that the sleep quality of primigravidas influences their HRQoL, with the sleep disturbance aspect of their sleep quality having a greater influence.

Sut, Asci and Tapac (2016) reported similar finding from their study among pregnant women. They reported a significant correlation between quality of sleep and HRQoL among pregnant women. In addition, Mourady et al. (2017) carried out a cross-sectional research on determinants of quality of life among one hundred and forty-one selected gravid women. They observed a significant interaction between sleep and quality of life among expectant mothers. The result of the independent influence of sleep disturbance in this study is supported by Nilsson-Wikmar (2004), who studies HRQoL as it relates to physical ability among pregnant women. The outcome of the research indicated that a significant difference in sleep exists among expectant mothers, who are experiencing back pain and those who are not having the experience. Both categories of pregnant women experience sleep disturbances that affect their HRQoL. The explanation for the current finding might not be farfetched from the fact that the normal physiological and psychological changes that come with pregnancy may impair restful sleep. Most studies on sleep quality during pregnancy deduced that gravid women face more sleepless condition in the night because of several pregnancy signs and bodily changes which take place in the course of the nine months of pregnancy (Wolfson & Lee, 2005). Physical and hormonal variations that manifest during pregnancy, increase respiratory issues due to the

pressure that the developing fetus creates on the diaphragm and certain challenges such as back pain, nocturia and leg syndrome (Pien & Schwab, 2004) can affect sleep quality and result in poor HRQoL.

The significance of pregnancy specific stress (PSS) and positive/spiritual coping was revealed in the model. The introduction of PSS increased the percentage variance to 7% indicating that pregnancy-specific stress contributed a significant 1.1% of the variance of change observed in HRQoL among primigravidas. Consistent reports from the literature suggest that pregnancy is a challenging experience. Shishehgar, Dolatan, Majd and Bakhtiary (2014) reported a related result in their study on perceived pregnancy stress and quality of life among women in Iran. They observed a remarkable relationship between pregnancy stress level and quality of life. Pregnant women encounter stress emanating from various pregnancy-specific concerns, involving bodily changes, physical symptoms, relationship strains, parenting concerns, worries concerning the childbirth process, and worries concerning the wellness of the baby (Misra, O'Campo, & Strobino, 2001). These concerns can create variations in the emotions of pregnant women which can affect their HRQoL.

Out of the three coping styles domains, positive/spiritual coping was the domain observed to have a statistically significant prediction on HRQoL. Hamilton and Lobel (2008) study supported this result. The outcome of their study revealed that pregnant women use spiritual coping often during pregnancy. Borcherding (2009) conducted a cross-sectional descriptive survey on coping in healthy primigravidas. The outcomes of the research showed that coping styles most often used were task and prayer coping while the least frequently used were emotion and avoidance coping. Yali and Lobel (1999) explained that women, who were capable of coping with the challenges created by the changes of pregnancy, utilized positive appraisal and spirituality as coping styles. In positive/spiritual coping, women are encouraged to be more optimistic and prayerful to have a more favourable pregnancy experience. In addition, religiosity was observed to be a strong predictor of spiritual coping.

Psychological factors (Health-care seeking behaviour, sleep quality components, pregnancy-specific stress and coping styles domains) jointly accounted for 11.2% of the variance in HRQoL among primigravidas in Ibadan. This result implies that the combined influences of the sampled primigravidas' health-care seeking behaviour, sleep quality components, pregnancy-specific stress and coping styles domains had significant prediction on their HRQoL. It emphasises the importance of these factors, especially when considering their joint prediction on HRQoL.

Slightly similar results were observed for the physical health domain of HRQoL with the independent contribution of health-care seeking behaviour, subjective sleep quality, habitual sleep efficiency, sleep disturbance, daytime dysfunction, pregnancy-specific stress and positive/spiritual coping only being significant. Psychological factors jointly accounted for a significant 9.4% of the variance in the physical health domain of HRQoL among primigravidas in Ibadan. Calou, Pinheiro, Castro, Oliveira, Aquino and Antezana, (2014) report supported the results. They carried out a study on HRQoL of gravid women and related factors. It was a global review using WHOQOL-BREF and Short Form -12 Health Survey (SF-12). They reported that practising physical activity throughout pregnancy improves the quality of life. Reports from different researches indicated that low QoL in pregnancy was related to increase perceived stress (Lau & Yin, 2011; Shishehgar, Dolatian, Majd & Bakhtiary, 2014; Shishehgar, Mahmoodi, Dolatian, Mahmoodi, Bakhtiary & AlaviMajd, 2013). Moreover, Mirabzadeh, Baradaran-Eftekhari, Setareh-Forouzan, Sajadi and Rafiee (2013) report supported the results of this study. The reports from their study revealed that spiritual/positive coping styles like good healthy behaviour are linked with good quality of life.

For the psychological domain of HRQoL, only the independent contributions of health-care seeking behaviour, sleep latency, sleep disturbance, daytime dysfunction, pregnancy-specific stress and positive/spiritual coping significantly predicted the psychological domain of HRQoL. Psychological factors jointly accounted for 8% of the variance in the psychological domain of HRQoL. This finding aligned with the results of some researchers who revealed that psychological health declines in pregnancy especially for those who lack social support (Biaggi, Conroy, Pawlby & Pariante, 2016; Al-Gamal &

Long, 2012). A study carried out among pregnant women in Iran reported that poor QoL was related to increased stress levels and poor social support in the first six months of pregnancy (Shishehgar, Mahmoodi, Dolatian, Mahmoodi, Bakhtiary & AlaviMajd, 2013).

For the social relationships domain of HRQoL, only the independent contribution of health-care seeking behaviour and positive/spiritual coping significantly predicted the social relationships domain of HRQoL. Psychological factors jointly accounted for 3.3% of the variance in the social relationships domain of HRQoL. The result of the study conducted by Calou, Pinheiro, Castro, Oliveira, Aquino and Antezana, (2014) is in agreement with this result. They reported that having social support during pregnancy improves QoL. The findings of this research also agree with the study of Xiong, Chaoji and Ningxiu (2010), which examined the relationship between social support and HRQoL for earthquake survivors. The multivariate logistic analysis revealed that those who experience greater social support have good QoL. It was concluded that social support is connected with QoL among earthquake survivors. Moreover, the result also showed that only health-care seeking behaviour independently significantly predicted the social relationships domain of HRQoL among primigravidas. A similar result was reported in a population-related cohort study by Faubel, Lopez-Garcia, Guallar-Castillon, Balboa-Castillo, Gutierrez -Fisac, Banegas and Rodriguez-Artalejo (2009).

For the environment domain of HRQoL, only the independent contribution of health-care seeking behaviour, sleep latency, sleep disturbance and positive/spiritual coping significantly predicted the environment domain of HRQoL. Psychological factors jointly accounted for 7.7% of the variance in the environment domain of HRQoL. The result of the study conducted by Clements & Ermakova (2012) suggests that coping styles that entail positive appraisal or religious beliefs are related to favourable psychological well-being in the course of gravidity.

The second hypothesis which assumes that age, educational qualifications and marital status would have significant influence on HRQoL among primigravidas was confirmed. The result revealed that HRQoL varied across the age groups of primigravidas. Further analysis revealed that primigravidas within 22 and 37 ages reported higher levels of

HRQoL than their counterparts within ages 18-21 years and 38-41years. This implies that HRQoL of primigravidas with the age ranges from 22-37years is better than their counterparts with age range of 18-21 years and 38-41years. The age aspect of pregnancy is highly crucial for the expectant mother and baby.

This result is supported by Benzies, Tough and Tofflemire (2006) study which reported that expectant mothers have the knowledge of age-related reduction in their health however they have the expectation of the assistance of available reproductive technology if required. Researchers have discovered that pregnant women understood that there is probability of an older woman delivering a baby having Down's syndrome, having high blood pressure, having a higher risk of miscarriage (Maheshwari, Porter, Shetty & Bhattacharya, 2008), requiring to deliver by caesarean section (Maheshwari, Porter, Shetty & Bhattacharya, 2008), having a preterm or low-birth-weight baby and stillbirth (Benzies, Tough and Tofflemire, 2006). These factors may influence primigravidas' HRQoL. Yılmaz, Tokgoz, Soysal, Aker and Kucukozkan (2018) reported that women who got pregnancy within the ages of 18 and 35 years are less likely to experience pregnancy challenges, and when they encounter any pregnancy challenge, they have the ability to cope. It is common for younger and older expectant mothers (≤ 21years and ≥37years) to experience challenging conditions that possess the capacity to adversely impact the health of the mother and baby. For instance the majority of primigravidas below age twenty-one may be single and may not plan the pregnancy. This can affect their HRQoL. The degree of stress can increase among advanced-age expectant mothers who know the probable problems related to gravidity (Bayrampour, et al., 2012; Zijlmans, Beijers, Riksen-Walraven & De–Weerth, 2017). Pregnant women, who are over thirty-seven years of age, experience more problems because of the danger of probable complications of advanced-age pregnancy and the availability of the diagnosis of high-risk gravidity.

The result also showed that educational qualifications significantly influence HRQoL among primigravidas. From the study, the result showed that respondents' HRQoL varied significantly across their educational qualifications. This implies that the higher the educational attainment of primigravidas, the better their HRQoL. Thus, primigravidas who had either HND or first degree reported better HRQoL than their counterparts with

lower education. This showed that there is an association between primigravidas' educational levels and their HRQoL during pregnancy. This means that educational qualification is a good predictor of HRQoL of primigravidas. The result of this hypothesis is similar to the result of the study of Guannan, Ida, Lu, Henriette, Vincent, Eva and Hein (2016) on maternal educational level and HRQoL in gravidity. The research assessed whether the trajectory is associated with mother's education and the result of their study indicated that women with higher education reported better HRQoL than women with a lower level of education. Calou, Pinheiro, Castro, Oliveira, Aquino and Antezana, (2014) carried out a study on HRQoL of expectant mothers and related factors. They reported that low education has an unfavourable impact on expectant mother's QoL.

Education promotes the improvement of cognitive skills relating to healthy lifestyle. Studies revealed that individuals with higher educational qualification exhibit more appropriate approach to the utilization of health facilities, comprehend health information better and adopt healthier lifestyles (Burton-Jeangros, Cullati, Sacker, Blane, 2015). It has been observed that pregnant women who have a higher educational qualification possess the tendency to be more concerned about the health care they received. They are also aware the relevance of their health and its connection to their fetal's health (Bai, Korfage, Groen, Jaddoe, Mautner & Raat, 2016). This issue was also disclosed in Fawole, Shah, Fabanwo, Adegbola, Adewunmi, Eniayewun, Dara et al. (2012) report that as the condition of education in the society gradually improves, expectant mothers will be more serious about their health care.

Marital status had a significant influence on HRQoL among primigravidas in Ibadan. The post-hoc analysis reveals higher means of 100.200 for primigravidas living apart and 96.3195 for the married ones. These group of primigravidas reported better health related quality of life than those who are single and those who are divorced. The result aligned with the report of Calou, de Oliveira, Carvalho, Soares… Pinheiro (2018) on maternal factors relating to QoL among pregnant Brazilian women. They employed a cross-sectional study using two public and private units that provide antenatal services. The outcome of their study revealed the relevance of marital status when considering quality of life during pregnancy. The support from significant others received by primigravidas

may account for this result. Spousal support is an important aspect of social support that is crucial during pregnancy.

Hypothesis three, which states that there would be a significant influence of pregnancy trimesters on HRQoL among primigravidas was not confirmed and consequently not accepted. This suggests that trimester of pregnancy of primigravidas does not significantly predict their health related quality of life. The outcome of this hypothesis could be linked to the homogeneity (primigravidas) of the respondents. This finding is similar to the result of the Mazuchova, Kelcikova and Dubovicka (2017) study. They examined women's life's quality in gravidity and verified the differences in QoL according to the period of pregnancy. They observed that QoL as regards pregnancy trimesters among gravid women was not significantly different. Daglar, Bilgic and Ozkan,(2020) in their study on predictors of life's quality during pregnancy observed that the difference recorded between pregnancy trimesters was not significant in quality of life domains.

The finding conflicts with Fernandes and Vido (2009), report in their study on expectant mothers' quality of life based on trimester of pregnancy. They discovered that women in the initial trimester of pregnancy had better QoL compared to those in the second trimester. In addition, those in the middle and last trimester of gravidity had same level of quality of life. Same report was also recorded for those in the first and last trimester of gravidity. Furthermore, researchers also observed that the lowest QoL scores was recorded in the third trimester of pregnancy while the highest scores was recorded in the second trimester (Wang, Liou & Cheng, 2013; Vachkova, Jezek, Mares & Moravcova, 2013).

Moreover, hypothesis four, which stated that primigravidas in the experimental group would report a better HRQoL than those in the control group at pre-test was not confirmed. This result is in line with existing literature (Azogh, Shakiba & Navidian, 2018) that observed no significant differences were observed between the study groups. This implies that no initial differences exist between the two groups. The non significant difference may be accounted for by different variables such as the homogeneity of the respondents in the groups (primigravidas in the second trimester), type of health-care access (public hospitals) and the same location of the respondents (Specialist Hospital Jericho, Ibadan).

This also means that any differences discovered in the experiment may not be a result of extraneous variables which may invalidate the result of the experiment. According to this result, hypothesis four was not confirmed but the group equivalence was established.

The study's hypothesis five, which states that primigravidas in the experimental group would report a better HRQoL than those in the control group at post-test, was supported. The results revealed a remarkable difference in the HRQoL of respondents in the experimental group after they had received the intervention. Further observation of their mean level revealed that the HRQoL of participants in the control group was lower than that of participants in the experimental group who received psychoeducational training. The efficacy of psychoeducation has been widely demonstrated by researchers. A related study by Kempler, Sharper and Bartlett (2012) on sleep psychoeducation in pregnancy for primigravidas supported this result. In their study, participants were randomized either to a control group that received a set of booklets or a three-hour psychoeducational session that is based on sleep. The result showed that those in the intervention group recorded lower depression scores compared to respondents in the control group. Aynur et al. (2016) investigated the impact of psychoeducation on childbirth fear given to primigravidas. The study involved an experimental and control group with fifty and forty-nine primigravidas in each group, respectively. It was confirmed that a positive attitude toward birth was provided and fear of childbirth was reduced with the preparation education received by the respondents in the experimental group. Similarly, in Nigeria, Adejumo (2004) and Olley (2006) confirmed the efficacy of psychoeducation among their study participants. This result indicates that PEP is effective in improving the HRQoL of primigravidas in Ibadan. Primigravidas may experience psychological issues which may endanger their HRQoL, but when effective psychoeducation is given, it helps to enhance their HRQoL.

Hypothesis six stated that primigravidas who received psychoeducation would report better HRQoL considering the sub-domains (physical health, psychological, social relationships and environment) compared with the control group at post-test. The result revealed that primigravidas who were exposed to PEP training reported significantly better psychological, social relationship, environment and physical health domains of HRQoL at the posttest stage compared to the pretest stage. In other words, the intervention

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training was more effective in enhancing these domains of HRQoL among primigravidas after the training than before the training. This means the components of PEP are comprehensible, acceptable and meet the needs of primigravidas with poor HRQoL.

The result of hypothesis six agrees with Jafarzadeh- Rastin, Khoshnevis and Mirzamani-Bafghi (2018) findings when they carried out research on the efficacy of problem-focused coping styles education on QoL among expectant mothers who have the genetic risk of fetal abnormalities. The study adopted the pretest-posttest experimental method of field trial type. The quality of life questionnaire was administered as a pretest on randomly selected thirty pregnant women who had the genetic risk of fetal abnormalities, before they were randomly grouped into experimental and control group. The reports indicated that respondents' QoL scores were remarkably higher in post-test than in the pre-test scores. There was a remarkable increase in different domains of quality of life which involves physical functioning, physical role, vitality, bodily pain, social functioning, mental health, general health and emotional role in the intervention group than in the control group.

CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1. Summary

This chapter consists of conclusion, recommendations and limitations of the study. The study examined psychological factors (health-care seeking behaviour, sleep quality, pregnancy-specific stress and coping styles) predicting HRQoL and the efficacy of psychoeducation among primigravidas in Ibadan.

The researcher conducted the study in three phases: the first was qualitative study, involving focus group discussions, key informant interview and in-depth interviews, where the researcher interacted with the respondents to find out factors that may affect their HRQoL and also develop a health-care seeking behaviour questionnaire designed to identify reasons pregnant women seek for health-care in public hospitals. Moreover, other scales were also validated at the phase. The second phase of the study was a quantitative stage where a questionnaire measuring health-care seeking behaviour, sleep quality, pregnancy-specific stress, coping styles and HRQoL was administered on primigravidas attending (public hospital) government hospital in Ibadan. The third phase is the intervention stage where primigravidas with poor HRQoL were exposed to psychoeducation for primigravidas (PEP) training.

6.2. Conclusion

This research identifies and establishes the predicting capacity of psychological variables (health-care seeking behaviour, sleep quality components, pregnancy-specific stress and coping style domains) on HRQoL among primigravidas in Ibadan. Besides, the efficacy of psychoeducation on HRQoL among primigravidas in Ibadan was also established.

The findings of the study showed that health-care seeking behaviour, sleep quality components, pregnancy-specific stress and coping styles domains jointly predict primigravidas' HRQoL in Ibadan. This implies that the combined influences of the sampled primigravidas' health-care seeking behaviour, sleep quality components, pregnancy-specific stress and coping styles domains had significant influences on their HRQoL. The study showed that all these predictor variables jointly interacted to play important roles in contributing to HRQoL of primigravidas. Aside from joint prediction, the results further showed that subjective sleep quality, sleep latency, sleep disturbance, pregnancy-specific stress and positive/spiritual coping had a statistically significant independent influence on HRQoL. It was discovered in the study that health-care seeking behaviour exerts a significant independent influence on HRQoL across the four models in table 4.3. This implies that health-care seeking behaviour was the only predictor variable that can cause significant changes in HRQoL on its own in the absence of the other variables.

The outcomes of this research also indicated that health-care seeking behaviour, sleep quality components, pregnancy-specific stress and coping style domains jointly predicted the four sub-domains (physical health, psychological, social relationships and environment) of HRQoL among primigravidas. In addition, the result of stepwise regression analysis showed that health-care seeking behaviour, subjective sleep quality, sleep efficiency, sleep disturbance, daytime dysfunction, pregnancy-specific stress and positive/spiritual coping had a statistically significant independent influence on the physical health domain of HRQoL; health-seeking behaviour, sleep latency, sleep disturbance, daytime dysfunction, pregnancy-specific stress and positive/spiritual coping had a statistically significant independent influence on the psychological domain of HRQoL; health-care seeking behaviour and spiritual coping significantly independently have an influence on the social relationships domain of HRQoL and health-care seeking behaviour, sleep latency, sleep disturbance and spiritual coping are the variables that independently significantly predicted environmental domain of HRQoL among primigravidas.

Only health-care seeking behaviour independently influences the four domains of HRQoL among primigravidas in Ibadan. This implies that the reason primigravidas seek health care during their pregnancy is very important to their psychological, physical, environmental and social relationships HRQoL and can positively or negatively influence their HRQoL.

Moreover, the result revealed that marital status, age groups and educational qualifications independently significantly influence HRQoL among primigravidas. This brought to light the importance of these variables (age groups, marital status and educational qualifications) when considering HRQoL among primigravidas.

Finally, the researcher discovered the efficacy of psychoeducation for primigravidas (PEP) as a method of promoting better HRQoL among primigravidas after the comparison at pretest and posttest stages was confirmed. The comparison between the experimental and control group suggests that PEP improves HRQoL among primigravidas. Also, PEP had a significant influence on the four domains (psychological, social relationships, physical health and environment domains) of HRQoL

6.3. Recommendations

Based on the outcomes of this study, the researcher recommends the following:

i. Psychoeducation should be included in primigravidas' antenatal care programme of the primigravidas and where it exists it should be reinforced with emphasis on these psychological factors (health-care seeking behaviour, sleep quality, pregnancy-specific stress and coping styles) as they relates to their HRQoL. This is because the result of the study established PEP to be efficacious in improving HRQoL of primigravidas. Therefore policymakers should ensure PEP is adopted as part of the antenatal care for primigravidas.

ii. Health professionals (gynaecologist, nurses, and matrons) are advised to do routine screening among primigravidas at each trimester to assess the level of their HRQoL.

iii.   Health personnel's at government hospitals (public hospitals) should encourage primigravidas to adopt the coping styles considered in this study in order to promote their HRQoL. More emphasis should be placed on positive/spiritual coping as it stands as the only coping style that has an independent influence on HRQoL.

iv.   During antenatal lectures emphasis should be placed on how psychological factors like health-care seeking behaviour sleep quality, PSS and coping styles can influence HRQoL of primigravidas.

v.   The health-care seeking behaviour scale is recommended for the assessment of the motive behind pregnant women patronize of public hospitals. This could assist policymakers to identify which aspect of health-care for pregnant women needs improvement. It is also recommended that the scale can be used in larger studies and other cultures for standardization and validation

vi.   Posters and fliers can be made available in antenatal centres to enhance the awareness of primigravidas on the relevance of these psychological factors on their HRQoL. Pictures and diagram coupled with the explanation from health personnel may assist primigravidas who are less educated comprehend the importance of these psychological factors to their HRQoL.

vii.   Healthcare providers must acknowledge primigravidas who are between 18-21 years old and over 37 years old as the category of primigravidas with unique challenges and deserving special attention and consideration. A more functional health support system (in terms of assigning them to a developmental psychologist) to address their psychological challenges should be provided to enhance their HRQoL.

6.4. Contributions to Knowledge

The results of this study have made profound contributions to existing knowledge regarding primigravidas and antenatal health management programmes. The following are the contributions of the study to knowledge:

i. This study added to the existing knowledge by creating the Pregnant Women Healthcare Seeking Behaviour Scale as a tool to measure reasons primigravidas seek health care in public hospitals. This scale could be relevant in providing insight on the reasons primigravidas seek health care in public hospitals and inform appropriate intervention.

ii. The result of this study revealed the relevance of certain factors (health-care seeking behaviour, sleep quality components, pregnancy-specific stress and coping styles domains) as predictors of HRQoL among primigravdas. These Psychological factors should be acknowledged and considered for program development by the health management board, developmental psychologists and health practitioners to address HRQoL among primigravidas.

iii. It was discovered in the study that health-care seeking behaviour and sleep disturbance exert a significant independent influence on HRQoL among primigravidas. This unique finding reveals the aspect of this population that needed further assessment and consideration for developing an appropriate intervention for this group of pregnant women.

iv. The finding of this research also gives empirical evidence for the usefulness of psychoeducation for primigravidas (PEP) by health professionals (in the antenatal section) of the hospitals. In essence, the study outcome has implication for the effective integration of the PEP module into the antenatal package so as to promote HRQoL among this population.

6.5. Limitations of the Study

Some limitation featured in this study that can be handled in subsequent researches of the same scope and objectives.

Primigravidas that were attending only public hospitals in Ibadan form this study's respondents. Consequently, results cannot be generalized to primigravidas utilizing other healthcare providers like mission houses, private hospitals and trado-medical centers. These could be considered in subsequent researches for wider generalization and comparison of finding.

Aside from the above limitation since this research adopted a cross-sectional method in which every variable was measured at one point in time, this did not reflect changes in the variables over time. Conducting a longitudinal study that considers the variables of this study from the first trimester to the last trimester of pregnancy may be more beneficial for a study of this nature. This will reveal the change in the variables throughout pregnancy.

Moreover, this study was conducted in some public hospitals in Ibadan. Further research should be extended to hospitals in other regions in Nigeria to strengthen its generalization.

Another limitation of this study was that some confounding variables that were not taken into account may influence the outcome of the intervention phase. Also, even though the experimental group reported improved HRQoL, the study only examined the effect of the treatment at the end of the session. No follow-up study was carried out to assess the effectiveness of the intervention across situations. Future studies may include this aspect in their research.

Finally, it was impossible to assess every factor that could be a potential predictor of HRQoL in this study. Other studies could consider investigating such factors as identified majorly in western literature.

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INFORMED CONSENT FORM
UNIVERSITY OF IBADAN
FACAULTY OF THE SOCIAL SCIENCES
DEPARTMENT OF PSYCHOLOGY

Dear respondents,

This informed consent form is for primigravidas that is women who are pregnant for the first time and the researcher expected them to take part in a research tittled "Psychological predictors of HRQoL and the efficacy of psychoeducation among primigravidas". This informed consent is broadly divided into two parts. The first part seeks to share information with you about the research while the second part seeks to certify your consent to take part in the study by appending your signature (as a prove of your consent).

PART 1: Information on the research

I am Olutola Funmilola Bosede, a PhD student from Department of Psychology, University of Ibadan. The supervisor of this thesis is Professor Grace Adejuwon of the department of psychology, University of Ibadan. We are conducting this research with the objective of examining how psychological factors such as sleep quality, health-care seeking behaviour, PSS and coping styles could enhance HRQoL among primigravida.

All information that we obtain from this study will remain confidential. In this study around 700 participants which include you will be asked to respond to a six sections questionnaire. You should also be informed that it is not compulsory to take part in this study and no risk is associated with those who participated in this study. Also no monetary cost will be incurred as a participant in this research except the time will be used to complete the research questionnaire.

After the research it is anticipated that the results of this study will provide useful information that can enhance pregnant women HRQoL for better outcomes of their pregnancy.

If you have any question to ask about the study, you may ask now or later. If you desire to ask questions later, you can contact any of the following:

Research Supervisor

Name: Professor Grace Adejuwon

Address: Department of Psychology, UI

Phone: 08033366026

e-mail: anuadejuwon@yahoo.com

Student Researcher

Name: Olutola Funmilola Bosede

Address: Department of Psychology, UI

Phone: 08038094141

e-mail:funmilolatola@gmail.com

PART II: Certificate of Consent

I have gone through the above information and I have been given the opportunity to ask questions about it. I am satisfied with the responses given to my all questions. I hereby certify my approval to voluntarily take part in this research.

Name of Participant: ………………………………………..

Signature of Participant: ………………………………..

Date: ………………………………………………………..

UNIVERSITY OF IBADAN
FACULTY OF THE SOCIAL SCIENCES,
DEPARTMENT OF PSYCHOLOGY

Dear Respondent,

I wish to solicit your kind response to this questionnaire which is designed to find out some factors that may enhance HRQoL. Your co-operation and candid response will help to advance knowledge. Your response is just an opinion, so be as honest as possible in stating your personal view. Your response will be strictly confidential. Thanks.

Section A: Demographic Information

Instruction: Please tick (   ) the option that best apply to you.

1. What is your Age? _____

2. What is your level of education? No Formal Education   (   )   Primary School   (   ) Secondary School( )OND/NCE ( )   HND/University Degree   (   )

3. Marital Status: Single ( )   Married   (   )   Divorced   (   ) living apart   (   )

4. What is your religion? Christianity (   )   Islam   (   ) Traditional religion   (   )

5. Ethnicity: Ibo   (   ),   Yoruba   (   ),   Hausa (   ),

6. What is your occupation? Housewife (   )   Faming ( )   Trading (   ) Teaching   (   )
      Student (   )   Civil Servant (   ) Artisan   (   )   Unemployed (   )
7. Number of pregnancy: None   (   ), One (   ),   Two (   ), More than two (   )

8. Month (s) of Pregnancy**:** 1-3 Months (   )   4-7 Months   (   )   8-10 Months   (   )

9**.** I receive health-care services from: (Tick the place(s) where you receive health-care
Public (Government) hospitals (   ) Private hospitals   (   )Spiritual homes   (   )
      Tradomedical hospitals (   )   Others   (   )

SECTION B: Please read each question, assess your feelings, and circle the number on the scale that gives the best answer for you for each question.

		Very poor	**Poor**	**Neither poor nor good**	**Good**	**Very Good**
1.	How would you rate your quality of life?					
		Very Dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
2.	How satisfied are you with your health?					

Instruction: The following questions 3 to 9 ask about how much you have experienced certain things in the last two weeks. Please tick appropriate column

		Not at all	**A little**	**A moderate amount**	**Very much**	**An extremely amount**
3.	To what extent do you feel that physical pain prevents you from doing what you need to do?					
4.	How much do you need any medical treatment to function in your daily life?					
5.	How much do you enjoy life?					
6.	To what extent do you feel your life to be meaningful?					
7.	How well are you able to concentrate?					
8.	How safe do you feel in your daily life?					
9.	How healthy is your physical environment?					

The following questions ask about how completely you experience or were able to do certain things in the last two weeks.

		Not at all	**A little**	**Moderate**	**Mostly**	**Completely**
10.	Do you have enough energy for					

		Very poor	Poor	Neither poor nor Well	Well	Very well
	everyday life?					
11.	Are you able to accept your bodily appearance?					
12.	Have you enough money to meet your needs?					
13.	How available to you is the information that you need in your day-to-day life?					
14.	To what extent do you have the opportunity for leisure activities?					
15.	How well are you able to get around?	**Very poor**	**Poor**	**Neither poor nor Well**	**Well**	**Very well**

The following questions ask you to say how good or satisfied you have felt about various aspects of your life over the last two weeks. Please tick the appropriate column

		Very dissat isfied	Dissatisf ied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
16.	How satisfied are you with your sleep?					
17.	How satisfied are you with your ability to perform your daily living activities?					
18.	How satisfied are you with your capacity for work?					
19.	How satisfied are you with yourself?					
20.	How satisfied are you with your personal relationships?					
21.	How satisfied are you with your sex life?					
22.	How satisfied are you with the support you get from your friends?					

23.	How satisfied are you with the conditions of your living place?				
24.	How satisfied are you with your access to health services?				
25.	How satisfied are you with your mode of transportation?				

The follow question refers to how often you have felt or experienced certain things in the last two weeks.

		Never	Seldo m	Quite often	Very Often	Always
26.	How often do you have negative feelings, such as blue mood, despair, anxiety, depression?					

SECTION C: Kindly respond to the following statements as it applicable to you. Use the scale provided below to indicate your level of agreement or disagreement to the statement. In the table are statements on reasons you seek health-care in public hospitals.

Strongly Agree (SA) = 4 Agree (A) = 3 Disagree (D) = 2 Strongly Disagree (SD) = 1
 I Seek for Health-Care in a Public Hospital Because:

S/N		SA	A	D	SD
1.	I enjoy doctors and nurses hospitality and care				
2.	I want to maintain my good health and well-being during pregnancy				
3.	there is free medical care to some extent				
4.	I want to have safe delivery				
5.	public health-care provider render excellent routine antenatal care				
6.	I want to know the position and gender of my baby through scanning				
7.	I believe the doctors are competent				
8.	I want to avoid complications during delivery				
9.	medical charges are affordable				
10.	I enjoy the way pregnant women are treated than any other health-care center				

11.	health nutrition and diet are taught by skilled health workers				
12.	I want to receive quality health care				
13.	I can have access to other services such as nutritional counseling and immunization				
14.	maintenance of good health and well-being is of paramount importance to me and my baby				
15.	It is my husband's choice				

SECTION D: The following questions relate to your usual sleep habits during the past month only. Your answers should indicate the most accurate reply for the majority of days and nights in the past month. Please answer all questions.

During the past month,

1. When have you usually gone to bed? _____

2. How long (in minutes) has it taken you to fall asleep each night? _____

3. What time have you usually gotten up in the morning? _____

4. A. How many hours of actual sleep did you get at night? _____

   B. How many hours were you in bed? _____

5. During the past month, how often have you had trouble sleeping because you

		Not during the past month (0)	Less than once a week (1)	Once or twice a week (2)	Three or more times a week (3)
A.	Cannot get to sleep within 30 minutes				
B.	Wake up in the middle of the night or early morning				
C.	Have to get up to use the bathroom				
D.	Cannot breathe comfortably				
E.	Cough or snore loudly				
F.	Feel too cold				
G.	Feel too hot				
H.	Have bad dreams				
I.	Have pain				
J.	Other reason (s), please describe, including how often you have had trouble sleeping because of this reason (s):				
6.	During the past month, how often have you taken medicine (prescribed or				

	"over the counter") to help you sleep?				
7.	During the past month, how often have you had trouble staying awake while driving, eating meals, or engaging in social activity?				
8.	During the past month, how much of a problem has it been for you to keep up enthusiasm to get things done?				
		Very good	**Fairly good**	**Fairly bad**	**Very bad**
9.	During the past month, how would you rate your sleep quality overall?				

SECTION E: To what extent are you feeling upset or worried at this point in your pregnancy about……

S/N		Not at all	Somewhat	Very Much
1.	… taking care of a newborn baby?			
2.	… the effect of ongoing health problems such as high blood pressure or diabetes on your pregnancy?			
3.	… feeling tired and having low energy during your pregnancy?			
4.	… pain during labour and delivery?			
5.	… paying for your medical care during pregnancy?			
6.	… changes in your weight and body shape during pregnancy?			
7.	… whether the baby might come too early?			
8.	… physical symptoms of pregnancy such as vomiting, swollen feet, or backaches?			
9.	… the quality of your medical care during pregnancy?			
10.	… changes in your relationships with other people because of having a baby?			
11.	… whether you might have an unhealthy baby?			

12.	… what will happen during labour and delivery?			
13.	… working or caring for your family during your pregnancy?			
14.	… paying for the baby's clothes, food or medical care?			
15.	… working at a job after the baby comes?			
16.	… getting day care, babysitters or other help to watch the baby after it comes?			
17.	… whether the baby might be affected by alcohol, cigarettes, or drugs that you have taken?			

SECTION F: For each item, please tick how often In the LAST MONTH, you have done each of these things to try to manage the strains and challenges of being pregnant even if it wasn't successful.

S/N		Never	Almost Never	Some-times	Fairly Often	Very Often
1.	Imagined how the birth will go?					
2.	Talked to people about what it is like to raise a child?					
3.	Compared your-self to women having a more difficult pregnancy?					
4.	Taken out frustrations on other people?					
5.	Asked doctors or nurses about the birth?					
6.	Read from the bible or a book of prayers?					
7.	Tried to keep your feelings about being pregnant to yourself?					
8.	Reminded yourself that you've been through worse times?					
9.	Tried to focus on what is important in life?					
10.	Slept in order to escape problems?					
11.	Thought about what it will be like after the baby comes?					
12.	Planned how you will handle the birth?					
13.	Spent time or talked with someone who just had a baby?					

14.	Made plans to get baby clothes or supplies?					
15.	Tried to focus on the positive parts of your pregnancy rather than negative parts?					
16.	Prayed for strength or courage to get through your pregnancy?					
17.	Gotten advice and understanding from someone about your pregnancy?					
18.	Tried not to think about the birth?					
19.	Spent time with other pregnant women or talked with them?					
20	Told your-self that things could be worse?					
21.	Had an alcoholic drink to feel better?					
22.	Felt lucky to be a woman and be able to experience pregnancy?					
23.	Planned how you or someone else will take care of the baby?					
24.	Imagined or pretended being the mother of a newborn?					
25.	Tried to avoid reading or hearing stories about childbirth?					
26.	Wished that the birth was over already?					
27.	Tried to make your-self feel better with food?					
28.	Planned changes in the number of hours that you work, or in things that you do at work?					
29.	Smoked a cigarette to feel better?					
30.	Thought about pregnant women who are doing better than you?					
31.	Tried to stay away from other people?					
32.	Gone for a walk or gotten some exercise to feel better?					
33.	Prayed that the birth will go well?					
34.	Talked to family or friends about what it is like to give birth?					
35.	Felt that being pregnant has made your life better?					

36.	Prayed that the baby will be healthy?					
37.	Wished that you weren't pregnant?					
38.	Tried to keep your feelings about the pregnancy from interfering with things you had to do?					
39.	Felt that having a baby was fulfilling a lifetime dream or goal?					
40.	Used a drug to feel better?					
41.	Gone to church, synagogue, a mosque, or other place to pray?					
42.	Read or watched something about childbirth that told what it would be like?					

THANK YOU.

ILE EKO GIGA FASITI TI ILU IBADAN
ABALA IMO NIPA ERO IWA EDA
EKA IKEKO NIPA ERO INU ATI OPOLO

Si Olufesi,

IWE FIFI ERONGBA HAN LATI KOPA NINU ISE IWADI

Iwe fifi erongba han lati kopa yii wa fun awon obinrin to loyun fun igba akoko. A n pe irufe awon arabinrin bayi lati kopa ninu ise iwadi ti o da lori, **"Awon ohun to n sokunfa didape to dantio ati ikopa lila eni loye lati fi eto Ilera to yanranti igbeaye alafia larin awon obirin ti oloyun fun igba akoko ni Ibadan".** Iwe yii pin si ipa meji. Ipa kinni n laniloye nipa ise iwadi naa nigbati ipa keji yoo se ifidimule gbigba lati kopa ninu ise iwadi naa nipa fifi owo si iwe naa (bi o ba gba lati kopa).

IPA KINNI: ILANILOYE LORI ISE IWADI NAA

Oruko mi ni Olutola Funmilola Bosede, mo je akekoo ni eka ikeko nipa ero inu ati opolo ni ile eko giga fasiti ti ilu Ibadan. Alabojuto ise iwadi yin ni Ojogbon Grace Adejuwon ti o je olukoni ni ile eko giga fasiti ti ilu Ibadan. Ilepa ise iwadi yi ni lati se agbeyewo awon ohun ti o le se alekun alafia fun awon obinrin to loyun fun igba akoko.

Gbogbo ibere ti o ba dahun ninu ise iwadi yin ni a o fi pamo daradara ti a o si ni je ki enikan ki o ri ayafi awon oluse iwadi. Ninu iwadi yi eniyan ti ko din ni igba ninu eyi ti o je okan, ni a o fun ni iwe ibeere ti won yo pese idahun si. O se pataki lati mo pe ikopa ninu iwadi yii je afinufedo se, ati pe ko si ewu Kankan ti o ro mo kikopa ninu ise iwadi yi bee si ni ko si inawo kankan ti ikopa yio se ninu ise iwadi yii leyin akoko ti nwon oo fi dahun iwe ibeere.

Lehin ti ise iwadi yi ba pari, a ni ifojusun wipe a o le mo kule kule awon ohun ti o le se alekun alafia fun awon obinrin to loyun fun igba akoko.

Bi o ba ni ibeere, o le beere nisisiyi tabi ni igba miran. Bi o ba wu o lati beere ibeere nigba miran kan si eyikeyi ninu awon eeyan wonyi:

Alabojuto ise iwadi   **Akeko ati oluse iwadi**

Oruko: Ojogbon Grace Adejuwon   **Oruko:** Olutola Funmilola Bosede

Adiresi: ile eko giga fasiti ti ilu Ibadan   **Adiresi:** ile eko giga fasiti ti ilu Ibadan

Ago: 08033366026   **Ago:** 08038094141

Apo ifiweranse: anuadejuwon@yahoo.com   **Apo ifiweranse:** funmilolatola@gmail.com

IPA KEJI: ERI GBIGBA LATI KOPA NINU ISE IWADI

Mo ti ka ohun ti a ko sinu iwe yii mo si ni anfaani lati beere ibeere nipa re, gbogbo ibeere mi ni won si ti dahun ni ona ti o te mi lorun. Nibayi mo se ijeri wipe mo finufedo gba lati kopa ninu ise iwadi naa.

Oruko: _____

Ifowosi: _____

Ojo ti a se adehun: _____

ILE EKO GIGA FASITI TI ILU IBADAN
ABALA IMO NIPA ERO IWA EDA
EKA IKEKO NIPA ERO INU ATI OPOLO

Oludahun-un,

Mo fe ki o fun ibeere inu iwe yii ni idahun ti o peye. Awon ibeere naa ni mu igbekale lati wadii awon nnkan to n mu ki ilera eda o ji pepe. Ifowosowopo ati esi gidi re ni yoo ran mi lowo fun itesiwaju iwadii mi. Ko si kannpa ninu idahun re. Idahun re kan je ero lasan ni. Je olooto ninu gbigbe ero re kale, idahun re maa wa ni ipamo fun elomiran. E se.

Ipin A Akiyesi: Jowo yan idahun ti o yan laayo
1.Ki n ni ojo ori re ?_____
2. Iwe meloo lo ka?
   (a) Mi o kawe rara   (   )   (b) Mo pari iwe alako bere (   ) (d) Mo pari iwe girama(   )
   (e) Mo pari abala kini ile eko gbogbo nise (   )   (e) Mo pari ile eko gbogbo nise/ ile
   eko giga   (   )

3. Nipa igbeyawo :
   (a) O n dagbe   (   ) (b) O ti se igbeyawo (   ) (d) O ti ko oko (   )
   (e) E ti pinya   (   )   (e) Opo ni e   (   )

4.   Kin ni esin re?
   (a) Esin Kiristeni (   )   (b) Esin Ibile (   )   (d) Esin Islam (   )
    (e) Esin miiran_____

5.   Eya: (a) Ibo   (   )   (b) Yoruba   (   )   (d) Hausa (   )
6.   Ise wo lo n se?
   (a) Iyawo ile (   )   (b) Ise agbe (   )   (d) Ise okowo (   )   (e) Ise olukoni (   )
   (e) Omo ile iwe (   )   (f) Osise ijoba (   )   (g) Onise owo (   )   (gb) Eni ti n wase ( )
   (i) Omiran _____

7. Iye oyun ti o ni : (a) Kosi (   )   (b) Eyo kan (   ) (d) Meji   (   ) ,
                       (e) Ju meji lo (   )

8. Osu ti o fi loyun (a) Osu kan si meta (   )   (b) Osu merin si meje (   )
                       (d) Osu mejo si mesan (   )

9. Mo maa n gba itoju ni : (yan gbogbo ibi ti o ti n gba itoju)
   (a) lle iwosan ijoba (   ) (b) lle iwosan aladaani ( ) (d) lle itoju yato si ti oyinbo ( )
   (e) lle iwosan ibile   (   )   (e) lle iwosan miiran   (   )

Ipin B: Jowo ka ibere kookan , fi ero re han ki o si fa ila si idahun ti o mo pe o yanranti.

S/N		Ko da rara	Ko da	Ko je okankan ninu re	O dara	O dara gan
1.	Bawo ni o se le won eto igbe aye re?					
		Ko temi lorun rara	Ko temi lorun	Ko je okankan ninu re	O temi lorun	O temi lorun daradara
2.	Nje eto ilera re te o lorun bi ?					
		Rara	Die	Ni iwonba die	Pupo	Ni opolopo
3.	Nje ara riro ndena re lati se ojuse bi?					
4.	Nje itoju ni ile wosan ti le se pataki fun igbeaye re?					
5.	Nje n gbadun aye bi?					
6.	Nje igbesi aye re ni itumo si o?					
7.	Bawo ni o ṣe n fi okan si nkan ni ?					
8.	Bawo ni ailewu ṣe lero ni igbesi aye rẹ ojoojumọ?					
9.	Bawo ni ilera ni ayika rẹ?					
		Rara	Di e	Ni iwonba	Gan an	Patapata
10.	Nje o ni okun to peye lati gbe aye?					
11.	Nje o gba bi--olohun se da ago ara re?					
12.	Nje o ni owo to towo lati yanju ohun ti o nilo?					
13.	Se okodoro iroyin ti o nilo					

		Ko temi lorun rara	Ko temi lorun	Mi o mu okankan	O temi lorun	O temi lorun gan
	lojojumo aye e re wa ni arowoto re?					
14.	Se anfaani aye igbafe e yo sile bi ?					
15.	Se ara re maa n jipepe ni gbogbo igba bi ?					
16.	Nje oorun ti o n sun te e lorun bii?					
17.	Nje eto ojojumo ti o n dawole te e lorun bii?					
18.	Nje agbara ti o fi n sise te e lorun bii?					
19.	Se iwo gan n te ara a re lorun bi?					
20.	Se ifarakinra pelu awon eniyan te o lorun bi?					
21.	Bawo ni inu rẹ ṣe dùn pẹlu igbesi-aye ibalopo rẹ					
22.	Se bi awon ore se n sugbaa re te o lorun bii?					
23.	Nje bi agbegbe ti o n gbe se ri te o lorun bii?					
24	Se anfani ti o ni si eto ilera te o lorun bii?					
25.	Se eto igboke-gbodo oko agegbe re te o lorun bii?					

		Rara	Lekan kan	Igbagbogbo	Lopo lopo igba	Gbogbo igba
26.	Nje o ni iriri odi bii iporuru okan, ipaya ati ibanuje?					

Ipin D: Jowo ka ibere kookan , fi ero re han nipa fi fa ila si idahun ti o mo pe o yanranti nipa idi ti o fi ngba itoju ni ile iwosan ijoba

S/N		Mo Gba Bee Gidi	Mo Gba Bee	Ko Si Ipinnu	Mi O Gba	Mi O Gba Rara
1.	Mo gbadun itoju ati aajo ti awon dokita ati noosi n fun eniyan nile iwosan ijoba					
2.	Mo fe ki iji pepe ilera mi o duro giri sibe					
3.	Mo gbadun eto ilera ofe de aye kan					
4.	Mo fe ki n wa ni aaye leyin ibimo mi					
5.	Olutoju ilera gbogbo gbo n funni ni itoju isafilole daradara					
6.	Mo fẹ lati mọ ipo ati eya ti ọmọ mi nipasẹ gbigbọn					
7.	Mo gbagbo pe awọn onisegun ni oye daradara					
8.	Mi o fe ki ojo ikunle mi o nira					
9.	Awọn inawo osibitu sẹ farada					
10.	Mo gbadun itoju ti wọn fun alaboyun ju eyikeyi ile-iṣẹ itoju ilera miiran lọ					
11.	Awọn oṣiṣẹ ilera maa ko Ilera ounjẹ					
12.	Mo fẹ gba itoju ilera to dara					
13.	Mo le ni iwọle si awọn iṣẹ miiran bi imọran ti ounjẹ ati ajesara					

14.	Ilera to dara ati igbe aye alaafia jẹ pataki julọ fun mi ati ọmọ mi					
15	Oko mi lo ni kin wa					

Ipin E: Jowo ka ibere kookan, fi ero re han si idahun ti o mo pe o yanranti nipa orun sisun re.

Fun osu seyin

1. Nigbawo ni o maa n saba sun? ....
2. O maa n gba o to akoko wo ki o to sun un lale? ……………………………
3. Nigba wo ni o maa n saba ji ni owuro? …………………………………
4. (A) Oorun wakati meloo ni o maa n sun lale? ....
   (B) Wakati meloo lo fi maa n wa lori ibusun ?..

5. Ni awon osu to ti koja,bawo lo se ni idojuko lori oorun sisun

		Rara	Koto Ekan Lose	Ekan tabi Emeji Lose	Emeta tabi ju be lo Lose
A	O ki ri orun sun laarin ogbon iseju				
B	O maa n ji sile laarin oru tabi ni idaji kutukutu				
D	O ni lati ji ki o le lo ibaluwe				
E	O ko le mi daadaa				
E	O maa n wuko tabi hanrun kikan- kikan				
F	Otutu maa n mu o				
G	Ooru maa n mu o				
G B	O n la ala buruku				
I	Ara n ro o				
J	Idi miiran jowo sapejuwe, paapaa julo bi o se ni idojuko lori orun sisun nitori awon idi yii.				
6	Fun osu die seyin bawo ni o se lo ogun si (eyi ti oloogun ko) lati mu o sun ?				
7	Fun osu die seyin , bawo ni o se ni idojuko ki eyan maa sun lasiko ti o n wa oko, jeun tabi wa ni ode ariya?				

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8	Fun osu die seyin, se isoro ti o doju ko e fun e ni anfani okun ati agbara lati je ki nnkan se e se fun o?				
		Dara dara	**O dara die**	**Ko dara**	**Ko dara rara**
9.	Bawo ni o se le se odiwon orun ti o n sun fun osu die seyin?				

Ipin E: Laskio yii se oyun nini mu ikanra tabi ipaya ba o nipa…

		Rara	Nigba miran	Gidi gan
1	…titoju omo tuntun ?			
2	…ewu to romo ailera bii aisan eje riru tabi ito suga ninu oyun?			
3	…ki o ma re eyan ati ailokun to lasiko oyun			
4	… irora lasiko ibimo ati igba ikunle gan			
5	…sisanwo itoju lasiko oyun nini			
6	…ayipada ti oyun nini mu ba irisi re ?			
7	…pe boya waa teete bimo ?			
8	...pe asisan to fojuhan ti oloyun maa n ni bii eebi, ese wiwu tabi eyin didun ?			
9	…bi o sengba itoju to peye to ninu oyun ?			
10	…ayipada ti afojusun omo ti o fe bi se ba ibasepo iwo ati awon ara ayika re			
11	…pe boya wa a bi omo ti ilera re ko pe ye to ?			
12	…ohun ti yo sele lasiko ti o fe bi omo ati lojo ikunle gan ?			
13	…ise e re tabi mi mojuto molebi re ninu oyun ?			
14	…sisan owo aso omo, ounje ati ilera re ?			
15	…sise ise kan pato leyin ibimo re ?			
16	…gbigbe omo sodo alagbato, sile itoju omode di akoko kan ati awon olutoju miiran bi omo naa ba de?			
17	…gba pe oti, siga tabi ogun oloro mimu le fa ijanmba fun oyun inu re?			

IPIN F: Ninu osu ti o koja bawo lo se gbiyanju lati kogo ja bii isoro ati idojuko ti oyun nini mu ba o ?

		Rara	Ko daju	Ni ekokan	Fun igba die	Ni opo igba

1	O nro bi ibimo se ma ri					
2	O nba awon eniyan soro lori itoju omo					
3	O nfi ara re sipo eni ti oyun nini da laamu					
		Rara	Ko daju	Ni ekokan	Fun igba die	Ni opo igba
4	O nkanra si elomiran					
5	O nbeere nipa ibimo lowo dokita tabi noosi					
6	O nika ninu bibeli tabi iwe adura miiran					
7	O nfi ero nipa oyun nini pamo sookan aya re					
8	O n ran ara re leti nipa akoko isoro to ti la koja ri					
9	O ni afojusun si nnkan to se koko laye					
10	O ma nsun lati sa fun isoro					
11	O ma nronu bi o se maa ri bi omo ba de					
12	O ni alakale bi waa se gba ibimo si					
13	O ti lo akoko re lati ba eni ti o sese bimo soro					
14.	O ni irogba lati ra aso ati awon nkan miran ti omo re maa lo					
15.	Ogbinyanju lati gbajumo ohun ti yo se o ni anfaani lasiko oyun yato si riro ohun aburu?					
16.	O ngbadura fun okun tabi igboya lati la ipo iloyun koja					
17.	O ohun gba imo lati odo eda kan nipa oyun					
18.	O ohun gbiyaju lati ma ronu nipa ojo ikunle					
19.	O nlo akoko re pelu awon alaboyun miran o gun le ibanisoro pelu won					
20.	O n so fun ara re pe nkan le buru si					
21	O n mu oti lati mu ki ara re jipepe					
22	Se inu e dun lati je obinrin to le ni iriri oyun nini					
23	O nseto bi iwo tabi elomiran se ma toju omo re					
24.	O nronu wo tabi se ise bii iya ikoko					

25.	O ngbiyanju lati yago fun kika tabi gbigbo itan nipa ibimọ					
26.	O ti ṣe o pe ki ibi naa ti pari					
27.	O ngbiyanju lati ṣe ara rẹ ni irọrun pẹlu ounjẹ					
28.	O nse ayipada wakati ti o nṣiṣẹ, tabi ni awọn nkan ti o ṣe ni iṣẹ					
29.	O nmu siga lati lero to dara					
30.	O nronu nipa awọn aboyun ti n ṣe dara ju ọ lọ					
31.	O ngbiyanju lati sa fun awọn eniyan miiran					
32.	O n lọ fun irin tabi ni idaraya diẹ diẹ lati mara bale					
33.	O ngbadura pe ibimo re yoo lo daradara					
34.	O nba ebi tabi awọn ọrẹ soro nipa bi ibimo se ma nri					
35.	O ni imo pe oyun ni o ṣe igbesi aye rẹ dara julọ					
36.	O ngbadura pe ọmọ yoo wa ni ilera					
37.	O lerogba pe o ko loyun?					
38.	O ngbiyanju lati pa awọn iṣoro rẹ nipa oyun lati ṣe idaamu pẹlu ohun ti o ni lati ṣe?					
39.	O ro pe nini ọmọ n mu iṣan igbesi aye tabi ìfọkànsí ṣe					
40.	O nlo oògùn kan lati lero dara					
41.	O nlọ si ijo, sinagogu, mossalassi, tabi ibi miiran lati gbadura					
42.	O nkaa tabi wo nkankan nipa ibimọ ti o sọ ohun ti yoo jẹ					

E se.

APPENDIX E

FOCUS GROUP DISCUSSION/INDEPT INTERVIEW GUIDE

1. What do you understand by health related quality of life?

2. What are the problems relating HRQoL?

3. Tell me what are the psychological factors influencing your HRQoL?

4. What are the signs and symptoms of poor HRQoL?

5. What challenges are you having regarding maintaining a good HRQoL?

6. Describe how you have been handling the challenges you have concerning your HRQoL.

7. Why do you attend antenatal clinic in public hospital?

8. What do you think about the medical services you receive in public hospitals?

9. Suggest possible ways primigravidas HRQoL can be assisted to be at optimal level.

10. What do you think psychologist can do to help remove these challenges?

KEY INFORMANT INTERVIEW GUIDE

1. What do you understand by HRQoL?

2. What is your opinion about on the HRQoL of pregnant women?

3. Based on your interaction with primigravidas, are there problems relating to HRQoL experienced by these women?

4. Are there psychological factors influencing HRQoL of these women?

5. What challenges do you observe they are having regarding maintaining their HRQoL?

6. Describe how you have been handling such issues with them.

7. What is your observation concerning their attendance of antenatal clinic?

8. What do you think this category of women can do in order to maintain good HRQoL?

9. Suggest possible ways primigravidas HRQoL can be assisted to be at optimal level.

10. What do you think psychologist can do to help remove these challenges?

APPENDIX G

Social Science and Humanity Research Ethic Committee Approval

SOCIAL SCIENCES AND HUMANITIES RESEARCH ETHICS COMMITTEE (SSHREC)
UNIVERSITY OF IBADAN
Chairman: Prof. A. S. Jegede, B.Sc, M.Sc (Ife), MHSc (Toronto), Ph.d (Ibadan)
Tel: +234-8055282418
E-mail: sayjegede@yahoo.com
sayjegede@gmail.com
as.jegede@mail.ui.edu.ng

NOTICE OF FULL APPROVAL AFTER FULL COMMITTEE REVIEW

RE: PSYCHOLOGICAL FACTORS AS DETERMINANTS OF HEALTH-RELATED QUALITY OF LIFE AND THE EFFICACY OF PSYCHOEDUCATION INTERVENTION AMONG PREGNANT WOMEN IN IBADAN

UI/Social Sciences Ethics Committee assigned number: **UI/SSHEC/2017/0030**

Name of Principal Investigator: **Funmilola Bosede OLUTOLA**
Address of Principal Investigator: Department of Psychology,
Faculty of the Social Sciences,
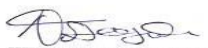University of Ibadan.

Date of receipt of valid application: **08/11/2017**
Date of meeting when final determination on ethical approval was made: **25th April, 2018.**

This is to inform you that the research described in the submitted protocol, the consent forms, and other participant information materials have been reviewed and given full approval by the SSHE Committee.

This approval dates from **25/04/2018 to 24/04/2019**. If there is delay in starting the research, please inform the SSHE Committee so that the dates of approval can be adjusted accordingly. Note that no participant accrual or activity related to this research may be conducted outside of these dates. All informed consent forms used in this study must carry the SSHE Committee assigned number and duration of SSHE Committee approval of the study. It is expected that you submit your annual report as well as an annual request for the project renewal to the SSHE Committee early in order to obtain renewal of your approval to avoid disruption of your research.

Note: the National code for health research ethics requires you to comply with all institutional guidelines, rules and regulations and with the tenets of the Code including ensuring that all adverse events are reported promptly to the SSHEC. No changes are permitted in the research without prior approval by the SSHEC except in circumstances outlined in the Code. The SSHE reserves the right to conduct compliance visit to your research site without previous notification.

Prof. A.S. Jegede

APPENDIX H

Ministry of Health Ethical Approval

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/ 117   16ᵗʰ April, 2019

The Principal Investigator,
Department of Psychology,
Faculty of Social Sciences,
University of Ibadan,
Ibadan,

Attention: Olutola Funmilola

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

This is to acknowledge that your Research Proposal titled: "Psychological Factors and the Efficacy of Psychoeducation Intervention in Enhancing Health-related Quality of Life among Primigravida Pregnant Women in Ibadan." 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

APPENDIX I

University Teaching Hospital Ethical Approval

INSTITUTE FOR ADVANCED MEDICAL RESEARCH AND TRAINING (IAMRAT)

College of Medicine, University of Ibadan, Ibadan, Nigeria.

Director: **Prof. Catherine O. Falade,** MBBS (Ib), M.Sc., FMCP, FWACP

Tel: 0803 326 4593, 0802 360 9151

e-mail: cfalade@comui.edu.ng lillyfunke@yahoo.com

UI/UCH EC Registration Number: **NHREC/05/01/2008a**

NOTICE OF FULL APPROVAL AFTER FULL COMMITTEE REVIEW

Re: Psychological Factors and the Efficacy of Psycho-Education Intervention in Enhancing Health-Related Quality of Life among Primigravida Pregnant Women in Ibadan.

UI/UCH Ethics Committee assigned number: UI/EC/19/0043

Name of Principal Investigator:	**Funmilola B. Olutola**
Address of Principal Investigator:	Department of Psychology
	Faculty of the Social Sciences
	University of Ibadan, Ibadan

Date of receipt of valid application: 08/02/2019

Date of meeting when final determination on ethical approval was made: **18/04/2019**

This is to inform you that the research described in the submitted protocol, the consent forms, and other participant information materials have been reviewed and *given full approval by the UI/UCH Ethics Committee.*

This approval dates from 18/04/2019 **to 17/04/2020.** If there is delay in starting the research, please inform the UI/UCH Ethics Committee so that the dates of approval can be adjusted accordingly. Note that no participant accrual or activity related to this research may be conducted outside of these dates. *All informed consent forms used in this study must carry the* UI/UCH EC *assigned number and duration of* UI/UCH EC *approval of the study.* It is expected that you submit your annual report as well as an annual request for the project renewal to the UI/UCH EC at least four weeks before the expiration of this approval in order to avoid disruption of your research.

The National Code for Health Research Ethics requires you to comply with all institutional guidelines, rules and regulations and with the tenets of the Code including ensuring that all adverse events are reported promptly to the UI/UCH EC. No changes are permitted in the research without prior approval by the UI/UCH EC except in circumstances outlined in the Code. The UI/UCH EC reserves the right to conduct compliance visit to your research site without previous notification.

Professor Catherine O. Falade
Director, IAMRAT
Chairperson, UI/UCH Ethics Committee
E-mail: uiuchec@gmail.com

APPENDIX J

FACTOR ANALYSIS OF PREGNANT WOMEN HEALTHCARE SEEKING BEHAVIOUR SCALE (PWHSBS)

Condition 1: Sample size requirement: minimum number of cases

The number of valid cases for this set of variable is 55. The ratio of cases to variable in principal component analysis (PCA) should be at least 4 to 1. With 55 and 22 items, the ratio of cases to variable is 2.5:1, which exceeds the requirement for the ratio of cases to variables.

Condition 2: Appropriate of factor analysis: Presence of substantial correlations.

(Correlation matrix table)

PCA requires that there be some correlation greater than 0.30 between the variables included in the analysis.

For this set of items, there are sufficient correlations in the matrix greater than 0.30, satisfying this requirement.

Condition 3: Appropriateness of factors analysis: Sampling adequacy of individual variables (KMO and Bartlett's Test)

PCA requires that the Kaiser-Meyer –Olkin Measure of Sampling Adequacy (MSA) be greater than 0.50 for each individual variable as well as the set of variables.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.938
Bartlett's Test of Sphericity	Approx. Chi-Square	2211.846
	df	231
	Sig.	.000

On the output, MSA for 22 items included in the analysis was greater than 0.5, supporting their retention in the analysis.

In addition, the overall MSA for the set of variables included in the analysis was 0.938, which exceed the minimum requirement of 0.05 for overall MSA.

Condition 4: Appropriateness of factor analysis: Bartlett's Test of Sphericity (KMO and Barlett's Test table)

PCA requires that the probability associated with Bartlett's Test of Sphericity be less than the level of significance.

The probability associated with the Bartlett's Test of Sphericity is < 0.001, which satisfies this requirement.

Condition 5: Number of factors to extract: Latent root criterion (Total variance explained table)

Total Variance Explained						
Compone nt	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	17.64 2	80.191	80.191	17.64 2	80.191	80.191
Extraction Method: Principal Component Analysis.						

There are only 1 eigenvalue greater than 1.0.

The latent root criterion for the number of factors to drive would indicate that there was 1 component to be extracted for these variables.

Condition 6: Number of factors to extract: Percentage of variance criterion (Total variance explained table)

In addition, the cumulative proportion of variance criteria can be met with 1 component to satisfy the criterion of explaining 60% or more of the total variance.

A one (1) components solution would explain 80.19 % of the total variance.

Condition 7: Evaluating communalities (Communalities table)

Communalities represents the proportion of the variance in the original variables that is accounted for the factor solution.

The factor solution should explain at least half of each original variable's variance, so the communality value for each variable should be 0.5 or higher.

Communalities

	Initial	Extraction
PWHSBS1	1.000	.878
PWHSBS2	1.000	.854
PWHSBS4	1.000	.842
PWHSBS5	1.000	.802
PWHSBS6	1.000	.862
PWHSBS7	1.000	.879
PWHSBS8	1.000	.864
PWHSBS9	1.000	.833
PWHSBS11	1.000	.861
PWHSBS12	1.000	.861
PWHSBS13	1.000	.835
PWHSBS14	1.000	.900
PWHSBS15	1.000	.804
PWHSBS16	1.000	.776
PWHSBS17	1.000	.824

Extraction Method: Principal Component Analysis

Communality was satisfactory for all items since all the communality values were greater than 0.50.

Condition 8: Identifying complex structure (Rotated Component matrix table)

Rotated Component Matrix[a]

a. Only one component was extracted. The solution cannot be rotated.

Reliability of the new 15-item scale

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.994	.994	15

Cronbach's Alpha Reliability of 0.99 for the new 15-item scale indicates that, the items had strongly internally consistent and reliable. The items also had Guttman Split-half reliability of 0.97.

Item Statistics

	Mean	Std. Deviation	N
PWHSBS1	1.7333	1.33452	15
PWHSBS2	1.8000	1.42428	15
PWHSBS3	1.8000	1.42428	15
PWHSBS4	1.7333	1.48645	15
PWHSBS5	1.7333	1.48645	15
PWHSBS6	1.7333	1.48645	15
PWHSBS7	1.7333	1.48645	15
PWHSBS8	1.6667	1.58865	15
PWHSBS9	1.5333	1.35576	15
PWHSBS10	1.4667	1.40746	15
PWHSBS11	1.5333	1.40746	15
PWHSBS12	1.6000	1.45406	15
PWHSBS13	1.5333	1.35576	15
PWHSBS14	1.8667	1.64172	15
PWHSBS15	1.4667	1.40746	15

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
PWHSBS1	23.2000	383.029	.973	.000	.993
PWHSBS2	23.1333	379.552	.974	.000	.993
PWHSBS3	23.1333	381.981	.927	.000	.993
PWHSBS4	23.2000	379.029	.940	.000	.993
PWHSBS5	23.2000	376.743	.982	.000	.993
PWHSBS6	23.2000	379.171	.937	.000	.993
PWHSBS7	23.2000	379.171	.937	.000	.993
PWHSBS8	23.2667	373.067	.978	.000	.993
PWHSBS9	23.4000	384.114	.935	.000	.993
PWHSBS10	23.4667	380.838	.962	.000	.993
PWHSBS11	23.4000	379.543	.987	.000	.993
PWHSBS12	23.3333	379.238	.959	.000	.993
PWHSBS13	23.4000	382.686	.964	.000	.993
PWHSBS14	23.0667	372.638	.951	.000	.993
PWHSBS15	23.4667	384.124	.898	.000	.994

SUMMARY OF FACTOR ANALYSIS

22 items were subjected to PCA in order to validate the items of the scale and establish components within the items. Out of the 22 items subjected to analysis, 7 items were removed because the anti-image correlation of the items was less than 0.5. Thus, 15 item with 1 component revealed using varimax rotation method, and they are; 1, 2, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 17.

Norm/Interpretation: The mean score for the sample population was 24.93 with a standard deviation of 20.87, which implies that total score of norm values or higher than the norm values (Mean = 24.93; Standard Deviation = 20.87) indicates good health-care

seeking behavior while a total score below the norm values (Mean = 24.93; Standard Deviation = 20.87) indicates poor health-care seeking behavior.

HERE ARE THE ITEMS THAT WERE FINALLY RETAINED

Instruction: Kindly respond to the following statements as it applicable to you. Use the scale provided below to indicate your level of agreement or disagreement to the statement. Therefore, you are implored to be truthful and honest in your responses by ticking (✓) the response you consider appropriate in space provided. In the table are statements on reasons you seek health-care in public hospitals. Thank you.

Strongly Agree (SA) = 4; Agree (A) = 3; Disagree (D) = 2; Strongly Disagree (SD) = 1

I Seek for Health-Care in a Public Hospital Because:

S/N		SA	A	D	SD
1.	I enjoy doctors and nurses hospitality and care				
2.	I want to maintain my good health and well-being during pregnancy				
3.	there is free medical care to some extent				
4.	I want to have safe delivery				
5.	public health-care provider render excellent routine antenatal care				
6.	I want to know the position and gender of my baby through scanning				
7.	I believe the doctors are competent				
8.	I want to avoid complications during delivery				
9.	medical charges are affordable				
10.	I enjoy the way pregnant women are treated than any other health-care center				
11.	health nutrition and diet are taught by skilled health workers				
12.	I want to receive quality health care				
13.	I can have access to other services such as nutritional counseling and immunization				
14.	maintenance of good health and well-being is of paramount importance to me and my baby				
15.	It is my husband's choice				