

UNIVERSITY OF CAPE COAST

IMPLICATION OF MENOPAUSAL SYMPTOMS ON WOMEN'S HEALTH  
IN IBADAN, OYO STATE, NIGERIA

BY

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the award of Master of Nursing Degree

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## DECLARATION

### **Candidate's declaration**

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature..... Date.....

Name: Adedolapo Adebukola Fadehan

### **Supervisors' declaration**

We hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

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## ABSTRACT

Menopause refers to the period of dramatic hormonal changes accompanied by various symptoms which may have implication on women's health. This study examined the implication of menopausal symptoms on women's health in Ibadan, Oyo state Nigeria. A cross sectional descriptive research design was used for this study. Twenty basic schools in Ibadan North Local Government (IBNLG) area of Oyo State Universal Basic Education Board (SUBEB) were selected using multistage random sampling technique and 300 eligible women were recruited. Data were collected using structured questionnaire and analysed using SPSS software version 21 to produce descriptive and inferential statistics. Findings from the study revealed physical, mental exhaustion and sexual problem as the most common and most severe symptoms experience. Physical and mental exhaustion as well as sexual symptoms were also the highest reported distressful symptoms. However, majority of the study participants reported that the symptoms experiences were not distressful. Role performance and social functioning domain of health was perceived as not good by majority of the study participants. Age and menopausal status had significant relationship with number of symptoms experiences. Finally, the findings of this study have far reaching implication on work performance and productivity as middle aged women working in basic schools under the IBNLG area of Oyo State may not be able to function optimally. Hence, policy makers may find the findings of this study useful in the formulation of policies on increase health expenditure of middle aged women.

## KEYWORDS

Health status

Implication

Menopausal symptom

Women

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## DEDICATION

To my adorable daughter (Aderonkeji), sweet son (Adeoti), loving husband (Temidayo Omole) and wonderful parents (Prince and Deaconess I.A. Fadehan).

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## **LIST OF ACRONYMS**

IBNLG: Ibadan North Local Government

SUBEB: State Universal Basic Education Board

## **CHAPTER ONE**

### **INTRODUCTION**

Women's health deserves particular attention as they are significant members of the society that play key role in the growth and development of every nation. Numerous studies have been conducted on menopausal symptoms experience across the globe and a few within Nigeria (Fuh, Wang, Lee, Lu & Juang, 2003; Agwu, Umeora & Ejikeme, 2008; Al-Olayet et al., 2010; Gharaibeh, Al-Obeisat & Hattab, 2010; Ande, Omu, Ande & Olagbuji, 2011; Setorglo, Keddey, Agbemaflle, Kumordize & Steiner-Aseidu, 2012; Yanikkerem, Oruc Koltan, Tamay & Dikayak, 2012; Mustafa & Sabir, 2012). However, findings obtained from those studies may be inappropriate and unreliable for health professional caring for working midlife women in Ibadan, Oyo state Nigeria due to various geographical variations which may differ from those experienced by women in Nigeria. Also, Armstrong Symptoms Experience Model reveals that examining the symptoms experience could help understand the implication of those experiences on the domains of health (Peterson & Bredow, 2009). Hence, this study investigates the implication of menopausal symptoms on women's health in Ibadan Oyo state Nigeria.

#### **Background to the Study**

Women generally live longer than men but this longevity is not necessarily a reflection of good or healthier life compared to men (WHO, 2009). Women spend one third of their life experiencing various health challenges

(WHO, 2009). These unhealthy lives could be traced to the numerous roles they perform in the society which include: economical productivity, procreation, professionals, and other ascribed roles as African women. Women's health has become an urgent priority for the World Health Organisation. The WHO (2009) classified women within the ages of 45-60 as women outside the reproductive age and women of 60 years of age and beyond as older women.

The middle age period (45-60) in women coincides with the period of dramatic hormonal changes called menopause (Oyediji, Amodun, Atulomah, Thomas & Ojo, 2011). Menopause is a physiological event that all middle age women experience (Ande, Omu, Ande & Olagbuji, 2011). It is also important to note that, menopause, is accompanied by various symptoms (Jack-Ide, Emelifeonwu & Adika, 2014; Oyediji, Amosu, Atulomah, Thomas & Ojo, 2011). The menopause symptom rating scale classified symptoms experience during menopausal transition using 3 main domains which are: somatic, psychological and urogenital domain (Al-Olayet et al., 2010; Lee et al., 2010; Chuni & Sreeramareddy, 2011; Elsabagh & Abd Allah, 2012; da Silvar & D'Andretta Tanaka, 2013; AlQuaiz, Siddiqui, Tayel & Habib, 2014; Chou, Wun & Pang, 2014; Joseph, Nagaraj, Saralaya, Nelliyanil & Jagadish, 2014).

Numerous researchers have revealed that hot flushes and night sweats are the cardinal symptoms of menopause, other symptoms include but are not limited to vaginal dryness, or atrophy and dyspareunia, anxieties, difficulty in concentrating, mood swing, depression, crying spells, irritability, loss of cognitive function evidenced by forgetfulness and increased health risks for several chronic

disorders like osteoporosis and cardiovascular disease (Fuh et al., 2003; Agwu et al., 2008; Al-Olayet et al., 2010; Gharaibeh et al., 2010; Ande, et al., 2011; Setorglo et al., 2012; Yanikkerem et al., 2012; Mustafa & Sabir, 2012).

According to Nisar and Sohoo (2009) the overall health and wellbeing of mid aged women have become a major public health concern around the world. The World Health Organisation (1998) defined health as a complete state of physical, mental and social wellbeing and not merely the absence of diseases or infirmity. This implies that the measurement of a complete state of health of an individual should not only be limited to the frequency and severity of diseases, but the estimation of the total well being of that individual which includes the physical, psychological (cognitive and emotional), social well being (WHO QOL Group, 1998).

Unfortunately, in addition to the menopausal symptoms experiences middle aged women face, diverse challenges ranging from change in their social roles, the stress of parenting, rebellious or nagging adolescent children, children leaving home and women having to cope with the sole responsibility of caring for the household. Others which include caring for their partner or ageing parents are some of the challenges experienced by middle aged women. These challenges constitute stressors and result in diminished physical and psychological health which could worsen their menopausal symptoms experiences (Rouen, 2009; Kumari, Stafford & Marmot, 2005).

Numerous researches have revealed menopause to be a significant phenomenon that impacts the quality of life in women (Oyediji, Amosu,

Atulomah, Thomas & Ojo, 2011; Elsabagh & Abd Allah, 2012; Jack-Ide, Emelifeonwu & Adika, 2014). The World Health Organisation referred to quality of life as an individual perception of their position in life with respect to their goal, expectation, standards, and concerns within the context of culture and beliefs of the society in which they live (WHO QOL Group, 1998; Skevington, Lofty & O'Connell, 2004).

In addition, quality of life of an individual is affected greatly by that individual's physical health, psychological state, level of independence, social relationships, personal beliefs and their relationship to salient features of their environment (WHO QOL Group, 1998). Similarly, Armstrong model of symptom experience also revealed that symptoms experiences have consequences on an individual's physical functioning, cognitive functioning, emotional health, social functioning and role performance (Peterson & Bredow, 2009). Hence, women's menopause symptoms experience may have serious implication for their physical, cognitive, emotional, social functioning and role performance.

It is however important to note that menopausal symptoms experiences vary in terms of nature, frequency and severity with different people, different phases of menopausal transition period, support network, working status, physical activity, education level, sources of menopausal knowledge, climate, diet, lifestyle, culture and value system, role expectations, menopausal view and beliefs regarding reproduction and aging (Abedzadeh-Kalarhoudi, Taebi, Sadat & Saberi, 2011; Sternfeld & Dugan, 2011; Elsabagh and Abd Allah, 2012; Jack-Ide, Emelifeonwu & Adika, 2014). Armstrong model of symptom experience also

revealed that the characteristics of middle aged women (demographic, individual health and menopausal characteristics) could influence an individual's symptoms experience and that these symptoms experience could have consequences on the individual's health status and performance.

Hence, this study made use of the symptom experience of menopausal women a spotlight to determine the implication of menopausal symptoms on the physical, cognitive, emotional, social functioning and role performance domains of women's health in Oyo state, Nigeria.

### **Statement of the Problem**

WHO (2009) revealed that women generally have a higher life expectancy and live longer than men but this is not necessarily indicator of good quality of life. This high life expectancy allows more women to experience menopause alongside other conditions such as pre-menstrual symptoms, pregnancy and child birth which are peculiar to women alone and which often have negative impact on their health as they carry health risks and require special attention.

Menopause, a period of dramatic hormonal changes has been revealed as a major significant event occurring during the middle age period and accompanied by a barrage of physiological and psychological, urogenital symptoms (Choi, 2013). The nature, frequency, severity and impact of menopausal symptom experienced on women's health differs (Elsabagh and Abd Allah, 2012). However, little is known about the implications of menopausal symptoms on women's health in Oyo State, Nigeria.



It is claimed that middle age women who are undergoing menopausal transition represent the highest percentage (68.25%) of women in the Nigerian workforce (Onyejeli, 2010). This implies that menopause could affect the economic productivity of the nation. However, menopausal symptoms may not only lead to reduce economic productivity but impact significantly on the physical and psychological wellbeing of women leading to reduced quality of life. Unfortunately, Nigerian women's health need during pregnancy receive more attention as well as fund than during menopause.

It is therefore important that women's health in the presence or absence of symptoms be optimized during this time. However, little is known regarding the impact of menopausal symptoms on women in Oyo State. Hence, this study examined the implication of menopausal symptom on women's health to afford health professionals the required information necessary to be considered in caring for these women and other women with similar characteristics.

### **Purpose of the Study**

The aim of the study was to describe the menopausal symptoms of women working in schools under Ibadan North Local Government area of Oyo State Universal Basic Education Board as well as to investigate the women's perception of their health status during menopause.

## **Research Questions**

1. What is the nature of menopausal symptoms experienced of women working in schools under Ibadan North Local Government area of Oyo State Universal Basic Education Board?
2. What is the pattern of menopausal symptoms experienced of women working in schools under Ibadan North Local Government area of Oyo State Universal Basic Education Board?
3. How do women working in schools under Ibadan North Local Government area of Oyo State Universal Basic Education Board perceive their health status?
4. Does the number of symptom experienced by women working in schools under Ibadan North Local Government area of Oyo State Universal Basic Education relate to their attributes?

## **Significance of the study**

Investigating the implication of menopausal symptoms on women's health is an essential topic that will contribute immensely to the growth and development of every nation, as poor or bad health has repercussion not only for the affected individual but for the entire nation at large. This is because women contribute to the society in several ways, their roles to the society include reproductive role, productive role consumer role and care provider. Hence, women's health deserves particular attention as they are significant members of the society that play key role in the growth and development of every nation.

Hopefully, findings that emanate from the study will contribute to the body of knowledge on menopause and inform health professionals interested in knowing about the implication of menopause on women's health in Oyo state, Nigeria and other developing countries with similar characteristics. Similarly, it will also inform health professionals especially the nurse, on the specific health needs of women in Ibadan North Local government area of Oyo State Universal Basic Education Board.

In addition, findings from the study will provides a baseline data on the characteristics of menopausal symptoms experience by women in Ibadan, Oyo state, Nigeria, it will also inform IBNLG OYO SUBEB authority regarding the challenges of menopause and points out their supportive roles. Finally, the findings from the study may also provide useful information that will be useful in making policies on the health needs of women with similar characteristics.

### **Delimitation of the study**

The study is delimited to women between the ages of 45 and 60 years working in schools under Ibadan North Local Government area of Oyo State Universal Basic Education Board.

### **Limitations of the Study**

A leading limitation of this study was the fact that this study utilised data that was entirely collected among middle aged women working in schools under Ibadan North Local Government area of Oyo State Universal Basic Education

Board as such might not totally represent the impact of menopause on the health of other middle aged women working in other sectors of the local government.

One other limitation is the bias which might have occurred in the form of recall or self-serving. Recall bias refers to that which might have influenced the information that was obtained from questions that demanded that study participants recall previous symptoms or experience. This might have affected the frequency of severity and distress of symptoms experience reported by these women. However, it seems that one week is an appropriate time-frame for the recall of many of the symptoms experienced.

Self-serving bias could also have been present for the middle aged women surveyed in their response to the surveys that centred on menopause. For example, even though anonymity was promised, it was possible that some middle aged women did not report the true distress of their symptoms experience during menopause to avoid the appearance of being unhealthy, unfit to work or a concern for job security.

### **Definition of terms**

*Implication:* Implication refers to the consequences, impact or outcomes of menopausal symptoms experience.

*Menopausal symptoms:* Departure from normal functioning of the somatic (hot flushes, sleep pattern, heart discomfort and joint and muscular discomfort), psychological (Anxiety, depressed, physical and mental exhaustion and irritability) and urogenital domains (vaginal dryness, sexual problems and bladder problem) as reported by women during the period of menopausal transition.

*Menopausal Symptoms experience:* Menopausal symptoms experience refers to the subjective perception of women between the ages of 40 and 60 regarding the presence (occurrence), severity and distress of the symptoms produced and expressed during menopausal transition.

*Nature of Symptoms experience:* The type of symptom experienced

*Pattern of Symptoms experience:* The severity and distress of symptoms experience.

*Severity:* Severity refers to the extent of the menopausal symptoms produced or expressed by women.

*Distress:* Distress refer to how bothered or to what extent the need to make adjustment to the occurrence of the symptom is felt.

*Women:* All females between the ages of 40 and 60 working in schools under Ibadan North Local government area of Oyo State Universal Basic Education Board.

*Health status:* Health status refers to the menopausal women's perception of their physical, cognitive, emotional, social functioning and role performance.

*Attributes:* Defining characteristics of menopausal symptoms experience of women undergoing menopausal transition such as age and menopausal status.

## **Organisation of the rest of the Study**

The rest of this study was organised in the following order:

Chapter two: This chapter introduces the conceptual bases of this study and reviews empirical literatures relevant to the concepts used in this study.

Chapter three: This chapter explores the protocols guiding the execution of this study.

Chapter four: This chapter presents the findings that emanate from the study as well as the discussion of these findings as it relates to previous researches. It will also point out the implication of these findings to nursing practice, research and policy making.

Chapter five: This chapter summarises the entire study, reveals the conclusion of the study and highlights recommendations that are appropriate to the findings of the study.

References: A reference section follows chapter five, where detailed references of all ideas cited throughout the thesis was presented using APA format.

Appendices: The thesis was brought to conclusion by this section where the research instruments used alongside all relevant documents needed to shed more light on the thesis were presented.

## **CHAPTER TWO**

### **REVIEW OF LITERATURE**

In an attempt to proceed with this study which investigate the implication of menopausal symptoms on women health in Ibadan, Oyo state Nigeria, this chapter introduces the conceptual base of this study and review existing literatures that are relevant to these concepts. Extensive computer search was conducted to examine existing literatures relevant to the study in the following order: Menopausal symptoms experience, impacts of menopausal symptom experience on women's health and the association between women's attributes and their symptoms experience.

#### **Conceptual Base of the Study**

This study developed its conceptual base from the Armstrong model of symptoms experience (a middle range nursing model).

#### **Armstrong's symptoms experience model**

Armstrong model of symptom experience was proposed in 2003 to expand and modify Theory of Unpleasant Symptoms (TOUS) by a neuro oncology nurse practioner and researcher. The TOUS was originally developed in 1995 by two nursing scholars Gift and Pugh, and revised in 1997 through the collaboration among experts who have observe dynamic clinical situations, conducted researches related to pain in patients and had insight to theory development (Peterson & Bredow, 2009).

Theory of Unpleasant Symptoms (TOUS) was developed with the intention of assisting nurses understand the interrelatedness of multiple symptoms, the factors that influence the production, perception and expression of this symptoms and the impact of the symptom experience on performance and how to manage them (Peterson & Bredow, 2009). TOUS unlike most other models of symptoms addresses experience of multiple symptoms by paying special attention to the intensity (severity), frequency, distress and quality of symptoms (Armstrong, 2003).

Theory of Unpleasant Symptoms further explained that an individual's experience of symptoms is influenced by certain factors known as antecedent factors and that an individual's symptoms experience could have consequences for their physical, cognitive, social and role performance. Theory of Unpleasant Symptoms defines antecedent factors to include physiological, psychological and situational.

Physiological antecedent factors include factors such as co-morbidities, abnormal studies, other pathological findings and the stage of the condition responsible for the symptom. Psychological antecedent on the other hand entails an individual's mood, level of depression, affective reaction to health conditions, degree of uncertainty regarding symptom experience and whatever meaning such individual ascribes to the symptom. While situational antecedent factors encompass factors in the social and physical environments that may affect an individual's symptom experience. Examples of situational factors include: social support, marital status and resources.



Armstrong model of symptoms experience however reorganized and limited the antecedent of symptoms to demographic characteristics, disease characteristics and individual characteristics. In addition, the characteristics of symptoms have been expanded to include symptom meaning along with other characteristics like intensity (severity), frequency/occurrence and distress already mentioned in TOUS (Peterson & Bredow, 2009; Armstrong, 2003).

While the consequences of symptom experience were also expanded to include emotional consequence alongside the physical, cognitive, social and role performance consequences (Peterson & Bredow, 2009). However, the consequences of symptoms experience suggested by Armstrong symptoms experience model fits under the WHO's holistic definition of health (WHO, 1998).

The Armstrong symptoms experience model, a middle range theory is considered the most appropriate for theory based researches and practice because they are appropriate for explanation, implementation and empirical testing, hence, are easy and useful both in nursing practice and research (Peterson & Bredow, 2009). Also, it is narrow in scope, specific for guiding research questions and has concepts and proposition that are concrete.

In addition, the Armstrong symptoms experience model's content incorporates the metaparadigm of nursing which include the nursing, environment, health and person (Fawcett, 2005). As its design models the symptoms experience of human being in order to assist the nurse understand and monitor the symptoms experience of patients. Also, the disease characteristic

implies health while the demographic characteristics and individual characteristics refer to the environment.

Furthermore, it incorporates the reciprocal views of the numerous menopausal researchers all over the world in the interaction of antecedents (demographic characteristics, health condition and individual characteristics) with symptoms experience and linking the characteristics of symptoms experience with health.

It is imperative to note that menopause is not a disease condition. However, the fact that it has implication on women's health makes the adaptation of Armstrong symptoms experience's model as a conceptual base of this study appropriate.

#### **Adaptation of the model**

For the purpose of this study, Armstrong symptoms experience definition is adapted as the perception of severity and distress of symptoms as they are produced or expressed (Armstrong, 2003). Within the antecedents of the demographic, health and menopausal characteristics the symptoms production occurs resulting in symptoms perception of the symptoms, which are expressed as the impacts of the symptoms on the health related quality of life of an individual (Armstrong, 2003).

The components of the Armstrong symptoms experience's model in the proposed study of menopausal symptoms experience are described as follows:

Antecedents: The characteristics of the patient which includes: demographic, health and menopausal characteristics.

Demographic: They include age, marital status, religion, marriage type and number of children living in the home.

Health characteristics: They include history of pre-menstrual symptoms, present medical condition as well as exercise.

Menopausal characteristics: They include prior menopausal knowledge, resources of prior menopausal knowledge and women's menopausal status which would be determined from their last menstrual period, view regarding menopause.

Symptom experience: Symptoms experience is a plural term used to represent the fact that symptoms rarely occur alone (Armstrong, 2003). In this model encompass symptom perception and symptom response

Symptom perception: Symptom perception is the identification of the occurrence of a symptom and its characteristics which are severity and distress. Severity is defined by the intensity or strength of a symptom while distress is being bothered or the feeling of the need to make adjustment to the occurrence of the symptom.

Symptom response: The consequence of the symptoms on the person's perceived physical, cognitive, emotional, social functioning and role performance.

Hence, the concepts of this model will be used to:

- Describe the nature of symptoms experiences of these women in terms of occurrence

- Describe the pattern (severity and distress) of symptoms experience of these women.
- Describe their health perception under the physical, cognitive, emotional, social functioning and role performance domain.
- Ascertain the difference in the nature of symptoms experience of women in relation to age (demographic antecedent) and menopausal status (menopausal antecedent).

## **Menopausal Symptoms experience**

The mid-life years are periods well known to usher in various transitions in women's life which could either be viewed as a period of great opportunity and freedom or be burdensome and requiring adjustment (Alexander et al., 2007; Strauss, 2013). These transitions could also include retirement of self and spouse, children leaving home or dramatic hormonal changes evidenced by numerous symptoms experience (Alexander et al., 2007; Strauss, 2013). This period more than any other period, has been revealed to have potentials to impact the physical and psychosocial health of women, reproductive ability and women's performance of their traditional roles as mothers, wives and workers (Lee et al., 2010; Yanikkrem et al., 2012; Newhart, 2013).

This mid-life period also marks a period during which women also perform the role of care giver to their children. This continues till the children leave home due to career pursuits and eventually marriage (empty nest syndrome). Afterwards, these women may also be saddled with the responsibility of caring for their grandchildren, taking care of ill family members as well as the maintenance of the immediate and extended family relationship (Sievert & Lic, 2003).

Menopause is a word used to purport an event among many other events that occurs during mid-life years (Yanikkrem et al., 2012). Menopause is a condition precipitated by a decline in ovarian function evidenced by a halt in monthly menstrual flow, compromised physical, mental, emotional, social wellbeing and role performance (Lee et al., 2010). Ilo, Agbapuonwu, Okeke,

Makachi, Orji & Odira (2015) stated that menopause is a period of natural adaptive process ushered in by decrease in the level of reproductive hormones due to the exhaustion of ovarian follicle in the reproductive system.

The word menopause originates from the Greek words “meno” meaning month and “pauis” meaning pause or cessation and the said cessation in menstruation is a permanent one resulting from depletion in ovarian function causing a decline in the production of oestrogen and progesterone and increase in follicle stimulating hormone and luteinising hormone (Rani, 2009; Mayo, 1999; Jack-Ide et al., 2014). Menopause is a period during which middle aged women experience physical, psychological and social challenges (Yazdkhasti, Simbar & Abdi, 2015).

Menopause could either be induced or natural. Natural menopause is a gradual depletion in the ovarian follicle which is accompanied by all the manifestation of a decline in ovarian function and encompasses early peri-menopause, late peri-menopause and post-menopausal transition (Newhart, 2013). However, induced menopause refers to attainment of menopause as a result of sudden decline in ovarian function caused by exposure to ionizing irradiation, chemotherapy or certain reproductive surgical intervention that includes hysterectomy or surgical removal of ovaries (Newhart, 2013). Also, women with induced menopause have higher incidence of symptoms than women with natural menopause (Yang et al., 2008; Vanwesenbeeck, Vennix & Van de Wiel, 2001).

The transition to menopause began in women during their mid-life years (Elsabagh & Abd Allah, 2012; Gharaibeh et al., 2010). Globally, the average age for attaining menopause is 51 years but may differ with individuals (Shakila, Sridharan & Thiyagarajan, 2014; Gharaibeh et al., 2010). Gharaibeh et al. also reported that the age ranges from 45-55 years globally. Malik (2008) revealed the mean age of attaining menopause among Karachi women as  $47.4 \pm 3.3$  years. Yang et al (2008) revealed that the mean age for attaining menopause among Chinese women was 48.99 years. Ceylan and Ozerdogan (2014) revealed that Turkish women attained menopause around  $46.4 \pm 4.4$  years. Brazil women attains menopause at  $47.4 \pm 4.9$  years (Conde et al., 2006). Arabic women  $47.9 \pm 5$  years (Lu, Liu & Eden, 2007). Similarly, Ozumba, Obi, Obiliki and Waboso (2004) reported that the ages of menopause for Nigerian women who participated in their study as between 44 and 56 years and the mean age to be  $49.4 \pm 3$  years. Jack-Ide et al., (2014) reported the mean age of menopause to be  $49.8 \pm 2.6$  years. Similarly, Ande et al., (2011) revealed the mean age of attaining menopause among Nigerian women studied as  $49.8 \pm 2.6$  years.

The menopausal transition is accompanied by diverse symptoms which demonstrate the erratic changes in hormone level (decline oestrogen and progesterone level and increase follicle stimulating and luteinizing hormone) in the body, which then puts mid-life women at risk for some or even all of these symptoms and many other chronic diseases like cardiovascular diseases and osteoporosis (Mayo, 1999). The principal role of oestrogen in the protection of the bone (bone reabsorption) and heart health (favourable plasma lipid profile and

healthy circulation) may be responsible for the health risk predisposing tendencies of menopause (de Villiers et al., 2013). Thus, explaining the mechanism of action of hormone replacement therapy which helps to protect the heart against cardiovascular disease and osteoporosis. Unfortunately, this approach to treating menopausal symptom experience is accompanied with a lot of side effects which must be weighed. It has also been revealed that the use of oestrogen replacement therapy has been linked with increased risk of endometrial cancer (de Villiers et al., 2013). However, the aforementioned risks could be lessened by combined hormone replacement (progestin and oestrogen) rather than oestrogen alone (Mayo, 1999).

Menopausal symptoms experience could be addressed using diverse symptoms management strategy. Lifestyle modification in the form of diet (low fat, high fibre and intake of fish oil) and exercise is a symptom management strategy that has been found helpful in reducing the symptoms experienced during menopausal transition (Yazdkhasti et al., 2015) and also the risk to heart diseases (Setorglo, 2012). Stress management and healthy behaviours are employed by some while complementary and alternative medicine in the form of herbal preparation and vitamin supplement are consider as possible alternatives to symptoms experience by others (Yazdkhasti et al., 2015).

However, low patronage of health facilities has been reported in some studies. Ozumba et al. (2004) revealed a low patronage of health facilities among Nigerian women and a higher practice of self-medication. In addition, the few



patronage of health facilities reported was tied to severe and distressing symptoms. Similarly, Yang et al. (2008) also disclosed that employing medical services for symptoms management was low among china women including the use of Hormone Replacement therapy. However, this could be linked to the educational level and extent of severity of symptoms experienced by these women. In addition, Jack-Ide et al. (2014) equally reported that Nigerian women rarely visited the hospital to manage their symptoms but, will rather employ spiritual remedy, have cold baths, wear lighter clothes, use native herbs and learn from the experiences of older women.

Menopausal status can be classified based on the menstrual period (Nisar & Soho, 2009). Women who are still experiencing normal menstrual cycle or slight change in length can be categorised as undergoing menopausal transition while women who stopped menstruating in the last 12 months or more as post-menopausal.

The Stages of Reproductive Aging Workshop's classification of menopause divided menopausal transition into three extensive phases: the reproductive phase, the menopausal transition and the post-menopausal phase (Harlow et al., 2012). These three phases encompass seven different stages. The reproductive phase also known as pre-menopause marks the period from women's initial menstrual period (menarche) to the onset of transition into menopause. It encompasses three stages spanning from the early reproductive phase to the late reproductive phase (-5, -4 and -3).

Afterwards, the menopausal transition phase (peri-menopausal) encompasses two stages (-2, -1). Here, the menstrual cycle become variable in length initially and ends with skipped menstrual cycle or an amenorrhea period of 60 days or more till the time of permanent cessation in menstrual cycle (the conclusive phase). The final phase, is the post-menopausal phase which encompasses two stages (+1, +2) and represents the permanent discontinuity of monthly menstrual flow which begins in the real sense at the time of the last menstrual period, but cannot be recognised until after 12 months of amenorrhea (Harlow et al., 2012).

According to Newhart (2013) the symptoms that accompany menopause can either be biological or psychological. The most common physical symptoms include vasomotor symptoms (hot flushes), vaginal dryness, night sweats, sleep disturbances and headaches while urogenital symptoms including frequency urgency and incontinence also exist as well as the most common psychological symptoms include irritability, nervousness, stress or distress and depression.

Only the physical and urogenital symptoms could be associated to the dramatic hormonal changes due to decline in ovarian function accompanying menopause. The psychological symptoms are associated to psychological changes and not hormonal changes accompanying menopause (Falguha et al., 2011). In addition, these symptoms experience may vary from and within populations in terms of its frequency, severity and intensity (Anderson, Yoshizawa, Gollschewski, Atogami, & Courtney, 2004; Yanikkrem et al., 2012; Ghazanfarpour et al., 2015) based on different factors.

Also, the symptoms could be interrelated, thereby enhancing each other to create a range of health problem which differs based on the phase of menopausal transition each woman attained (Rani, 2009; Eden & Wylie, 2009). The symptoms experienced during menopausal transition may be distressful to women undergoing it (Rani, 2009). However, not all women who experience the symptoms of menopausal transition are distressed by them or find the symptoms bothersome (Eden & Wylie, 2009). Lu et al. (2007) disclosed that post-menopausal women experience more distress from their symptoms experiences than pre-menopausal and peri-menopausal women.

A hospital based cross sectional study among middle aged women in the south eastern part of Nigeria revealed hot flushes as the most frequently occurring symptom during menopausal transition (Ozumba et al., 2004). Other symptoms experienced in order of decreasing frequency were fatigue, joint pain, irritability, anxiety, poor memory, dyspareunia, urinary symptoms, depression and post-menopausal bleeding.

Similarly, Jack-Ide et al. (2014) in a community based cross sectional survey of middle aged women from a rural part of Nigeria reported hot flushes, fatigue and joint pains as the most frequently experienced symptoms experience among Nigerian women from a rural community in the eastern part. Other symptoms experienced in order of frequency included feeling of sadness, anxiety, forgetfulness, decreased libido, night sweats and being easily irritated while the least symptoms experienced reported in their study were vaginal dryness, urinary frequency and headaches in decreasing order of frequency.

Ilo et al. (2015) in a cross sectional survey of middle aged women from another rural community in the eastern part of Nigeria revealed menstrual irregularities, sleeping problems, hot flushes and joint pains as the most commonly occurring symptoms experienced among middle aged Nigerian women. Other symptoms experienced in decreasing order of frequency were vaginal dryness, reduction in sexual activity, frequency of micturition and forgetfulness while palpitation and moods swing were the least experienced symptoms.

Ande et al. (2011) in a cross sectional survey involving middle aged women from different social class in a city in the eastern part of Nigeria revealed that only about third fifth of the middle aged women reported symptoms experience. In addition, the most commonly reported symptoms experience includes joint pains, hot flush and night sweats in decreasing order of frequency. Other symptoms that were experienced by the Nigerian middle age women surveyed were headaches, fatigue and anxiety. Insomnia, loss of libido, dizziness, depression, dyspareunia and urine leakage were the least reported symptoms experienced by Nigeria middle aged women surveyed.

Agwu et al. (2008) in a cross sectional survey involving purposively selected women who attended a seminar in a state in the south western part of Nigeria reported the major symptoms at menopause to include hot flashes, sweating, urinary frequency, vaginal dryness, discomfort or discharge, lack of concentration, and irritability in decreasing order of occurrence. Other less commonly occurring symptoms reported were depressions, night sweats,

decreased libido, insomnia, joint aches, palpitations and skin itchiness. Hot flushes were also reported as the most distressful symptoms experienced.

The symptoms experience of Nigeria women differs across the previous studies reviewed. The variation may be as a result of variation in methodology such as target population, sampling technique, research instruments, climatic changes and recall bias. As well, the increase in the symptoms accompany menopausal transition experienced among Nigerian women may be due to the remarkable infiltration of western cultures and practices into their inherited cultures and practices (Ozumba et al., 2004).

Thomas (2005) in a community based cross sectional survey among Caribbean female volunteers aged 35-65 years reported hot flushes, weight gain and mood swings as the most frequently occurring symptoms while urinary symptoms, painful intercourse and crawling sensation were the least occurring symptoms.

In a hospital based cross sectional survey, body aches, lack of energy, decrease physical strength and hot flushes were the most frequently experienced symptoms experienced among middle aged Isra women asked to recall their symptoms experience in a period of six months preceding the survey while increase in facial hair was the least reported symptom experienced (Nisar & Sohoo, 2009). However, the nature of symptoms experience reported by these women may be influenced by the ailment being presented at the health facility.

Eden and Wylie (2009) in a review on quality of sexual life and menopause revealed that hot flushes remain the most commonly reported distressful symptom among women with the distress high among pre-menopausal, higher among early peri-menopausal and highest at the late peri-menopausal phase after which it reduce at the post-menopausal phase.

Yanikkrem et al. (2012) in a hospital based cross sectional study similarly revealed the most frequently occurring symptoms among Turkish women to include hot flushes, feeling tired or worn out, night sweats, feeling anxious or nervous, aches in muscles and joints and weight gain in decreasing order. Other symptoms experienced in decreasing order of frequency were being impatient with other people, sweating, vaginal dryness, changes in sexual desire and avoiding intimacy.

Lu et al. (2007) also reported in a community based cross sectional survey that most frequently occurring symptoms experienced by Arabic middle aged women surveyed in the previous week were feeling tired or worn out, aches in muscles and joints and night sweats. Other symptom commonly experienced in decreasing order includes changes in sexual desire, hot flushes and vaginal dryness during intercourse. The decrease in the frequency reported for symptoms experience among study participants may be as a result of the time of recall as a week may be too small to assess sexual problems

Ghazanfarpour et al. (2015) revealed in a hospital based cross sectional study that the prevalence of symptoms experienced among the middle age Iranian

women studied was high. The most common menopausal symptoms experienced by Iranian women studied was joint and muscle pain followed by anxiety or nervousness, low backache and sweats while avoiding intimate relationships and vaginal dryness during intercourse were the least symptoms experienced. In addition, vasomotor symptoms experience had the highest mean score followed by psychosocial and physical while sexual symptoms had the least mean score. The nature of symptoms experience reported by these women may be influenced by the ailment being presented at the health facility.

On the contrary, prevalence of symptoms experienced was high for majority of the middle aged women surveyed in Spain Martinez-Perez, Palacios, Chavida and Perez (2013). The most common symptoms reported were hot flushes, insomnia and irritability. However, on the issue of severity of symptom experienced majority reported mildly severe to moderately severe symptoms while only a few experienced severe symptoms (Martinez-Perez et al., 2013).

Also, Chuni and Sreerarmareddy (2011) reported that the most frequent menopausal symptoms experienced by Nepalese peri-menopausal and post-menopausal women were hot flushes and sleeping disorder while physical and mental exhaustion and sleeping disorders were the most frequent symptoms experienced by pre-menopausal women. Chuni and Sreermareddy (2011) further reported that in terms of severity of symptom experience, symptoms experience of hot flushes ranges from very severe to severe and other symptom experience like anxiety, depressive moods, irritability and vaginal dryness were reported as severe.

Furthermore, Joseph et al. (2014) reported that about four out of every five Indian women examined experienced at least one symptom. In addition, there was also a high prevalence and severity of somatic, psychological and urogenital symptoms experience among the Indian women surveyed. Also, severity of symptoms experience was highest for somatic symptoms followed by psychological and lowest for urogenital symptoms.

However, pre-menopausal women experienced more severe symptoms than peri-menopausal and post-menopausal women while peri-menopausal women experienced lower severity of symptoms experience. In addition, the prevalence of urogenital symptoms was higher among peri-menopausal women while somatic symptoms were experienced by both peri-menopausal and post-menopausal women (Joseph et al., 2014). These findings may be due to the fact that sample for the study was selected from the physician list of patients visiting the hospital in Indian

Al-Olayet et al. (2010) equally reported vasomotor dysfunction, vaginal dryness, mood changes, sleep disturbance, urinary incontinence, and sexual dysfunction as of highest occurrence and severity among peri-menopausal women attending clinic in Saudi Arabia. Al-Olayet also reported that the severity of hot flushes and excessive sweating was found to be severe for all the women studied. However, the pre-menopausal women experience more severe sleeping disorders and worrying problem while peri-menopausal women experience more severe mood changes and post-menopausal women experience more severe weakness in the body.



Mustafa and Sabir (2012) disclosed that tiredness, hot flushes and night sweats were the most commonly occurring symptoms experienced among middle aged women attending clinic in Iraq. Other symptom experiences reported by the women surveyed include loss of short term memory, poor concentration, vaginal dryness, insomnia, anxiety and mood swings. The least experienced symptoms reported were urinary frequency, dysuria, urgency, dyspareunia, depressed mood and loss of confidence in decreasing order of frequency.

Gharaibeh et al. (2010) reported that hot flushes, sweating at night and joint pains were the most severe symptoms experienced by Jordanian women. It also revealed a significant relationship between severity of symptoms experienced and occurrence of symptoms experience and age, perceived health status as well as menopausal status. The severity of symptoms experiences reported by these women may be due to bias in the selection of sample for the study as the sample was selected using convenience sample.

Chou, Wun and Pang (2014) also using convenience sampling method revealed that menopausal symptoms were commonly experienced by the midlife Chinese women attending clinic. In addition, the most prevalent symptoms experienced by Chinese midlife women surveyed were physical and mental exhaustion, joints and muscular discomfort, irritability and sleeping problem in decreasing order of prevalence. Furthermore, it was made known that somatic symptom were the most severe symptoms followed by urogenital and lastly psychological symptoms. The fact that study participant were selected from the

clinic may be responsible for their report of a more severe somatic as well as urogenital symptoms.

Likewise, atypical symptoms of menopause such as irritability, joint and muscular discomfort and anxiety as the most frequently experienced symptoms reported among middle aged Brazil women. It was also revealed that low educational level, self perceived of health as poor and menopausal status were significantly associated with occurrence of more severe symptoms (da Silva & Tanaka, 2013). However, certain antecedent characteristics peculiar to study participants may be responsible for the nature of symptoms experience reported by study participants.

Symptoms experiences have also been examined among women outside the clinic settings. Elsabagh and Abd Allah (2012) in a population based cross sectional survey of older women in a rural district in Egypt revealed that the severity of somatic and urogenital symptoms was higher for post-menopausal women than in pre and peri-menopausal women while the severity of psychological symptoms was lower for post-menopausal women. However, the fact that pre and peri-menopausal women are transiting into menopause and must undergo the dramatic hormonal changes due to decline ovarian function that accompany transition into menopause may be responsible for their more pronounced experience of psychological symptoms. .

Fagula, Goncalves and Ferreira (2011) in a random population based cross sectional survey also reported weight gain, moodiness, irritability, memory

problems and sleep disorders as the most commonly reported symptoms experience among Portuguese women. It was also revealed that symptoms experience were associated with socio demographic variables like low educational level, dependent children, children living at home as well as grand children at home.

Fagula et al. (2011) also reported that, menopausal symptoms experience were more common among post-menopausal women than peri-menopausal women with the exception of irritability which was more commonly experienced by peri-menopausal women. Weight gain was the most common symptoms experience reported by the Portuguese women studied may be linked to their lifestyle as majority of the women surveyed reported none performance of physical exercise.

As well, the fact that ovarian function is at the declining phase and not the halt phase in peri-menopausal women may be responsible for their less experience of symptoms experience when compared to post menopausal women (Lee et al., 2010). The dramatic declining nature of the hormone among peri-menopausal women may also justify why peri-menopausal women experience irritability more when compared to post-menopausal women.

Ceylan & Ozerdogan (2014) in a population based cross sectional survey that examined Turkish women symptoms experience in the past one month also made known that feeling tired and worn out, aching in muscles and joints and low back ache were the most frequently experienced symptom while increase in facial

hair was the least common symptom. It is possible that the surveyed Turkish women might not be able to relate their symptoms experience correctly given the time of recall and the fact that no aid was given to assist recall.

In addition, Yang et al. (2008) in a population based cross sectional survey where women recalled their symptoms experience in the previous two months revealed that the prevalence of symptom experience was low among Chinese middle aged women living in a province in the southern china as only one third of the middle aged women studied experienced the most frequently occurring symptoms. These findings may also be as a result of recall bias giving the time frame study participants were expected to consider in reporting their symptoms experience.

Futhermore, Yang et al. (2008) revealed the most common symptoms experienced by the middle aged women studied to include insomnia, joint or muscular pain and dizziness while the classical symptoms of menopause, hot flushes and night sweats was reported by a few of the middle aged women studied. Yang et al. (2008) also revealed that majority of the women in the survey reported mildly severe symptoms experience and only a few experienced moderately severe and severe symptoms.

In addition, the fact that over half of the study participants reported suffering from medical ailment that include osteo arthritic, hypertension, myoma, heart disease and diabetes mellitus which may be accompanied by symptoms such as joint pain (osteo arthritis), headaches (hypertension), insomnia (urinary

frequencies due to diabetes mellitus) as well as dizziness (myoma) may justify their most common symptom experience

Fuh et al. (2003) examined the symptoms experienced among rural Chinese women in relation to prevalence of symptoms experience and reported that there was higher prevalence of insomnia, athralgia, vaginal dryness, hot flushes and night sweat among post-menopausal women compared with perimenopausal women while perimenopausal women experienced higher prevalence of headache and frequent urination than post-menopausal women. However, pre-menopausal women experienced higher headaches than perimenopausal women.

Additionally, Mushtaq (2011) reported that fatigue followed by hot flushes and night sweats as the most commonly experienced symptoms among randomly selected post-menopausal women in a city in Indian. While hot flushes were the most commonly reported symptom experience among post-menopausal women selected through purposive sampling when compared to symptoms experiences of fatigue and mood swing (Mushtaq & Ashai, 2014).

However, Anderson et al. (2004)'s comparison between the symptoms experiences of Japanese and Australian middle aged women also revealed that Japanese post-menopausal women experienced higher somatic, psychological and sexual symptoms while Australian post-menopausal women experience only sexual symptoms.

Likewise, Ama and Ngome (2013) using snow balling sampling technique surveyed middle aged women from four districts in Botswana. Findings from their study revealed weakening bones, changes in sexual drives, difficulty working and changes in sexual responses as the most commonly reported symptoms experience. Other symptoms experienced were urinary frequency and urgency, bladder, uterine and vaginal prolapsed, vaginal dryness, and vaginal irritation in decreasing order of frequency.

Similarly, middle aged women in the United State recruited using convenience sampling technique through the internet and community setting revealed the most frequently reported symptoms experienced in decreasing order among ethnic groups to include: allergy symptoms, change in vision, feeling hot or cold, forgetfulness, sleep difficulties, stiff and sore joint (Eun-Ok, 2009).

Even though the numerous researches reviewed were cross sectional, other methodological variation exist like selection bias, recall bias as well sample selection and setting which may provide justification for the inconsistency of the menopausal symptoms experience findings.

### **Consequences of Menopause on Women's Health**

The World Health Organisation since 1948 till date defined health has a state of complete physical, mental and social well being and not merely the absence of infirmity or disease. This gives a room to subjectivity in the assessment of health and ensures that even a person with a particular condition is not assumed unhealthy until proven otherwise and alternatively also allows an

individual to be considered healthy physically but not psychologically or socially (WHO QOL Group, 1998).

The WHO recognises that the health status of an individual which refers to that individual's functional capacity and performance can be assessed both subjectively and objectively. Subjective health assessment can be performed using the WHO Quality of life-BREF instrument a cross culturally accepted tool for assessing the totality of an individual's health. This allows the health professional utilise the holistic approach which enables them to look beyond presenting symptoms alone to other aspects of client's well being that might have being impacted by the presenting symptoms (Skevington, Lofty & O'Connell, 2004).

The physical health domain assess an individual's perception of how much control individuals have over bodily pain, sleep, energy, as well as their mobility, dependent on medication and their ability to carry out their routine daily activities. Psychological health encompass emotional and cognitive/mental functioning domain, cognitive domain assess the thinking, learning, and concentration while emotional domain inquires into how satisfied one is with life, bodily image, self esteem and feeling. The social health domain assess how symptoms experience interfere with the individuals relationship with family relatives, friends and colleagues, how pleased they are with the support received from others and their role performing ability (Skevington, Lofty & O'Connell, 2004).

Menopausal symptoms experience has been revealed to have adverse effect on the general well being of women (Agwu et al., 2008). In addition,

midlife women's role in the family and at work has been revealed to be accompanied with stress which may amplify their symptoms experience and as a result make their health status worse (Alexander et al., 2007). In the same manner, poor health status especially one impinging on role performance may impact self esteem and in turn amplify mid life women symptoms experience during menopause (Eden & Wylie, 2009).

Surprisingly, the frequency, severity and distress of symptoms experienced may also be a factor that determines an individual subjective health status (Peterson & Bredow, 2009). In line with this, lower frequency of psychological symptoms was associated with subjective perception of health as good/excellent while subjective perception of health as fair was associated with higher frequency of psychological symptom (Eun-Ok, 2009). It has also been made known that subjective perception of health as poor was associated with higher severity of somatic, psychological and urogenital symptom experience (Chuni & Sreerarmareddy, 2011; da Silvar & Tanaka, 2013). Likewise, women who experience distressful symptoms often report poor subjective health status (Remennick, 2008).

The extent of severity of symptoms experience may also have impact on women's health status. Woods and Mitchell (2005) reported that severe vasomotor symptoms have the most significant implication on women's health and well being. Severe vasomotor symptoms experience were also revealed to be associated with mood and sleeping pattern disturbance and as well have impact on women's health and wellbeing (Fuh et al., 2003). Ceylan and Ozerdogan (2014)



equally reported that post menopausal women have poor health related quality of life due to the characteristics of the various symptoms experiences identified with them.

It is also important to note that women's health and wellbeing during menopausal transition may be influenced not only by symptoms experience but by some of the factors associated with symptoms experience (Woods & Mitchelle, 2005). In line with this, Fuh et al. (2003) reported that women who had history of PMS are prone to poor health status. In addition, Agwu et al. (2008) reported that having prior knowledge on menopause had no influence on how Nigerian women tolerated health.

Menopausal status of an individual has also been revealed to be related to women's health status. Fuh et al. (2003) in their study revealed that perimenopausal and post-menopausal women had poor scores in the physical role function which could be related to oestrogen deficiency and may be independent of age and BMI compare to pre menopausal women.

Similarly, Conde, Pinto-Neto, Santos-Sá, Costa-Paiva, and Martinez (2006)'s study revealed that post-menopausal women may experience more impaired physical functioning than those of pre-menopausal women. Likewise, Mishra, Brown, and Qual (2003)'s findings from their longitudinal study in Australia on middle aged women's health also revealed that the middle aged women experience a wane in the physical domain of health while experiencing menopausal transition.

Furthermore, Fuh et al. (2003) also disclosed that peri-menopausal women may experience more psychological symptoms. Woods & Mitchell (2005) equally revealed that health and wellbeing of middle aged women improved tremendously as they enter the late menopausal transition phase. It has also been revealed that post-menopausal women reported a loss of interest in sex more than pre-menopausal and peri-menopausal women (Vanwesenbeeck et al., 2001; Ceylan & Ozerdogan, 2014).

Symptoms experiences has also been reported to adversely affected women's daily lives, work lives, sexual life and relationship with the husband (Chou et al., 2014). Impaired daily life was revealed to be associated with hot flushes and joints/muscular pain. Also work life was revealed to be associated with symptoms experiences of irritability and exhaustion. In addition, sexual life was revealed to be associated with hot flushes, sexual problem and vaginal dryness while relationship with husband was revealed to be associated with sexual problems.

It has also been reported that menopausal symptoms experience had adverse implications on women's relationship with spouse, children and significant others (Mushtaq, 2011). Specifically, Agwu et al. (2008) made known that menopausal symptoms experience affected the general well being as well as threaten the family and marriage of women undergoing it. Similarly, Yanikkerem et al. (2012) revealed that menopause had negative implication on the daily lives and social relationship with spouse of over one of every four women, the sexual

relationship with spouse of about one of every three women and the mother child relationship in one of every five women.

Vanwesenbeeck et al. (2001) also reported that women who were dissatisfied with their life and body image also reported more loss of interest in sex which may in turn affect their marital relationship (Gharaibeh et al, 2010) relationship with children and other people they come in contact with while they perform their daily activity. (Yanikkerem et al., 2012). In addition, women who experienced negative social support from their marital relationship or from friendship report more complaints than others (Vanwesenbeeck et al., 2001; Conde et al. 2006). Similarly, Yanikkerem et al. (2012) also disclosed that women who receive moderate social support from family and friends experience milder symptoms than women who do not. However, Adekunle, Fawole and Okunlola (2000) disclosed that menopausal symptoms experience had no effect on the post-menopausal women's relationship with spouse and children.

It is however important to note that numerous researches have revealed that middle age women rarely reports loss or reduction of interest in sex (Adekunle, Fawole & Okunlola, 2000; Ozumba et al., 2004; Mustafa & Sabir, 2012). Accordingly, Agwu et al. (2008) opine that women in the typical African setting exhibit reticence on sexual matters evidenced by failure, reluctance or shyness to disclose sexual issues to medical personnel due to the fact that sexual issues are considered a taboo and an immoral issue. Yanikkerem et al. (2012) however opine that, the reticence is not just because sexual issue is considered a

taboo and immoral issue but partly because sexual activities are considered ideal only for the purpose of procreation.

Subjective perception of health is a strong determinant of the type of identity an individual form, the lifestyle choices they make, the possibility of utilising medical intervention and consequently their performance, productivity and life span (Remennick, 2008). Unfortunately, there may be disarray between subjective health status and objective perception of health which could be responsible for the choice made regarding symptom management.

## **Women's Attributes in Relation to Symptoms Experience**

### **Demographic characteristics**

Numerous studies have been conducted on the relationship between certain demographic characteristics and symptoms experience. Age may be related to symptoms experience as menopause occurs gradually as a result of a the gradual decline in ovarian function. Pimenta et al. (2012) reported that progressing age predicted severity of sexual symptoms, cognitive impairment, aches, pain and urinary symptoms. Similarly, AlQuaiz et al. (2014) also revealed that women 50-54 years reported moderately severe to severe urogenital symptoms than women from other age group. Furthermore, Grigoriou et al. (2013) reported that age correlated with psychological symptoms experience.

Conversely, Mushtaq (2011) revealed that there was no significant relationship between the ages of study participants and symptoms experience like hot flushes, night sweats, fatigue and headache. Joseph et al. (2014) equally reported no association between the age of women undergoing menopausal

transition and the severity of symptoms experienced by them. Likewise, Eun-Ok (2009) also disclosed that there was no association between age and number of symptoms experienced among Asian women.

Middle age women can either be educated or non educated, educational attainment differs among women of this group. Unfortunately, educational attainment may influence women's symptoms experience during menopausal transition (Sievert & Lic, 2003; Eun-Ok, 2009). Lee et al. (2010) reported that higher educational attainment was associated with decreased severity of menopausal symptoms.

Similarly, Abedzadeh-Kalahroudi et al. (2012) affirmed that milder severity of menopausal symptoms experiences were associated with higher educational attainment. In the same manner, it has been revealed that low educational attainment were significantly associated with increase number of occurrence, higher frequency, severity and distress of menopausal symptoms experience (da Silvar & Tanaka, 2013; Yang et al., 2008; Ghazanfarpour et al., 2013; Lu, Liu & Eden, 2007).

Ceylan & Özerdoğan (2014) however affirmed this by reporting that non educated women scored higher than educated women in all the sub domains. Being educated might enhance the knowledge of midlife women on coping measures appropriate for women undergoing transition and as such helping them to combat their symptom experience as well as afford them control over problems that ensue.

Pimenta et al. (2012) additionally reported that educational level was significantly associated with vasomotor symptoms and sexual symptoms. Similarly, Lu et al. (2007) also made known that educational level is associated with vasomotor symptoms experience while Duffy et al. (2013) equally reported that symptoms experience of vaginal dryness was associated with higher educational attainment. However, Yanikkerem et al. (2012) revealed that women who had no education had higher scores in the vasomotor, psychosocial and physical domains.

Also, Sievert & Lic, (2003) reported that post-menopausal women with lower educational attainment reported more experiences of hot flushes, cold sweats, ache in the joints, lack of energy, nervous tension and feeling blue while Lu et al. (2007) equally reported that women with no formal education experienced higher distress from their symptoms experience. Women with low educational status have limited source of information on menopause thus experience more frequent, severe and distressful symptoms ignorantly rely on information from others.

On the contrary, Liu et al (2015) however reported that educational level did not show obvious association with most frequent symptoms experience (hot flushes, night sweats and headaches). AlQuaiz et al. (2014) and Joseph et al. (2014) also affirmed that there was no relationship between education and severity of menopausal symptoms. Even though, uneducated women in their study experienced consistently higher percentages of moderate to severe symptoms than educated women. In addition, Ghazanfarpour et al. (2015) also reported that

women's level of education had no influence on the severity of their symptoms experience.

Some studies revealed employment status of women undergoing menopausal transition as associated with the symptoms they experience during menopausal transition. Abedzadeh-Kalahroudi et al. (2012) revealed that severity of menopausal symptoms experiences were associated with employment status. Lee et al. (2010) also disclosed that women who were employed reported decreased severity of menopausal symptoms.

Congruent to this, Yang et al. (2008) also revealed that women who worked in official posts experienced fewer symptoms while unemployed and housewives experienced more symptoms. In addition, Yanikkerem et al. (2012) equally reported that women who were not employed (housewives) had higher scores in vasomotor, physical and psychological symptoms while working women had lower psychosocial and physical domain mean score.

Also, AlQuaiz et al. (2014) reported that women who are not employed particularly housewives had two times risk of reporting moderate to severe urogenital symptoms compared to employed women. This may be due to the fact that a more active lifestyle could help take menopausal women's thought away from their symptoms experiences (Grigoriou et al., 2013). However, there is a possibility of negative impact of employment on symptoms experience. This is so as Shakila, Sridharan and Thiyagarajan (2014) revealed that the extent of job stress faced and work load had influence on physical and mental symptoms

experienced. Hence, the type and nature of work place may also be associated with symptoms experience.

Being married is another characteristic of most middle aged women, Jack-Ide et al. (2014) in their community based survey on Nigeria rural women indicated specifically that, marital issues and family pattern may be responsible for the increase in the frequency of psychological symptoms experienced. Likewise, Eun-Ok (2009) and Shakila et al. (2014) equally revealed an association between marital status and women's symptoms experience like irritation and vaginal itching. However, AlQuaiz et al. (2014) and Joseph et al. (2014) reported that marital status was not associated with the severity of symptoms experienced. Correspondingly, Liu et al. (2015) disclosed that there was no association between marital status and most menopausal symptoms experience.

Marital status could also predict the frequency and severity of symptoms experience. Ghazanfarpour et al. (2015) revealed that married women experienced more severe vasomotor and sexual symptoms than single, divorced or widowed. Lu et al. (2007) equally revealed that symptoms experience of vasomotor symptoms was associated with marital status. Similarly, Pimenta et al. (2012) disclosed that marital status predicted vasomotor and sexual symptoms. Ceylan and Özerdoğan (2014) equally revealed that married women reported lower mean score in the vasomotor and psychosocial domain than widows or divorced. Similarly, Lu et al. (2007) reported that separated women had higher scores in the vasomotor and psychosocial than other women. While, Fagulha et al. (2011)



disclosed that married women reported higher frequency of symptoms experience than single, divorce and divorced.

Besides marital status, the presence or absence of the partner could also determine the extent of severity of the symptoms reported by menopausal women. In a cross sectional survey of post menopausal mothers of university students in urban part of Korea via mail Lee et al. (2010) reported that absence of partner was associated with increased severity of menopausal symptoms. Fagulha et al. (2011) also made known that women who do not live with husband or partner reported less symptoms experience of decline in sexual drive, vaginal dryness and dyspareunia.

However, Pimenta et al. (2012) reported that marital status predicted the frequency and extent of distress experienced by women regarding sexual symptoms and not decline in cognitive abilities, muscular pain and urinary symptoms of women. Likewise, marital satisfaction may also play a major role in the symptom experiences reported by women undergoing menopausal transition. In line with this, Eunkyung and Kyung-Hae (2012) specified that marital satisfaction was associated with only pre-menopausal and post-menopausal women's symptoms experience.

Menopausal transition period has been revealed to often coincide with the exodus of children from the home (Sievert & Lic, 2003). However, Ande et al. (2011) reported that majority of the Nigerian women studied had 3-4 children and above living with them. Living with children was also revealed to be associated

with pre and post-menopausal women's symptoms experience (Eunkyung & Kyung- Hae, 2012). Fagulha et al. (2011) also reported that women who do not have children or who do not have dependent children or who do not have children at home or who were living with grand children reported less symptoms experience. Agwu et al. (2008) also disclosed that women with no children or relatives living with them may experience more distress with their symptoms experience. In addition, women who lived in big houses reported having lower scores in the urogenital subscale than women who live in smaller houses (AlQuaiz et al. 2014).

Yazdkhasti et al. (2015) disclosed that the social condition of women could influence the severity of symptoms experience. Post-menopausal women living in rural areas are unprepared physically and mentally to tackle the changes that accompanies menopausal transition or seeks ways to reduce the symptoms experienced due to failure to accept menopause and thus experience more severe symptoms than urban women. Also, accessibility of health care system could also be a contributory factor to this.

Ozumba et al. (2004) opined that symptoms experience might be worse among women who reside in the rural settings due to their seldom practice of the typical African extended family system where middle aged women have maximum access to support from children, close and distant relatives. Jack-Ide et al. (2014) while comparing their study to the one done in an urban setting in Nigeria also submitted that, psychological symptoms was higher among rural women than urban women which might be due to higher prevalence of

polygamous practice in the rural area studied. Ethnic group may also predict symptoms experience. Eun- Ok (2009) revealed a significant difference between study participant's ethnic group and frequency of symptoms experiences like being tense or easily irritable, hot flushes and frequent urination.

### **Health characteristics**

All women transiting into menopausal period have experienced menstrual period prior to this transition. According to Cunningham, Yonkers, O'Brien and Erikson (2009) many women in their reproductive years can give an account of mood, behavioural or physical symptoms before menstruation which sometimes extend into menstruation. These experiences which include experiences of negative mood states, somatic symptoms of breast tenderness, joint and muscle pain, severe abdominal bloating, pre-menstrual headaches are often referred to as pre-menstrual syndrome (Cunningham et al., 2009).

History of premenstrual syndrome may be associated with increased frequency and severity of menopausal symptoms as women with previous history of pre-menstrual syndrome may be highly sensitive to hormonal changes than women without previous history of pre-menstrual symptoms. Lee et al. (2010) reported that women who reported history of pre-menstrual syndrome reported more severe symptoms. Fuh et al. (2003) also made known that pre-menstrual syndrome was strongly associated with higher frequency of symptoms experienced during menopausal transition and lower quality of life. Chun and Sreeramareddy (2011) revealed that having history of dysmenorrhoea was associated with reporting severe symptoms.

Menopausal transition has also been revealed to be accompanied with increased accumulation of fat leading to an increase in weight (Setorglo, et al., 2012). Similarly, Setorglo et al. (2012) reported that life style modification in the form of regular exercise and appropriate diet (fruits and vegetables) may help manage weight and reduce symptoms. Exercise and BMI has been revealed to have a relationship with symptoms experiences. Engaging in regular exercise and having a healthy BMI may be related to decrease menopausal symptoms (Setorglo et al., 2012). This implies that women with increased BMI may have higher prevalence of menopausal symptoms (Yang et al., 2008). AlQuaiz et al. (2014) also revealed that women who had increased BMI (obesity and overweight) reported more psychosomatic symptoms and scored higher on the MRS scale.

In the same way, Duffy et al. (2013) disclosed that increased BMI (obese) was associated with symptoms experience of hot flushes while having decreased BMI (over weight) was associated with symptoms experience of night sweats. Lu et al. (2007) also reported that increased number of occurrence and severity of vasomotor symptoms experience among middle aged women was associated with higher BMI.

On the other hand, Abedzadeh-Kalahroudi et al. (2012) disclosed that there was a significant association between exercise performance, exercise frequency and severity of symptoms experience. However, there was no significant association between exercise duration and the severity of symptoms experience (Abedzadeh-Kalahroudi et al., 2012). This implies that, the regularity

in terms of performance and the frequency of performance of exercise may result in lower menopausal rating scale score while irregularity in either performance or frequency of performance could result in a higher score. AlQuaiz et al. (2014) also reported that women who performed regular exercise (not less than 15 minutes per day and not less than 5 day per week) reported significantly less severe somatic and urogenital symptoms than women who do not exercise or who do not exercise regularly.

However, Grigoriou et al. (2013) reported no association between neither exercise nor BMI and their assessed symptoms experience. Similarly, Liu et al. (2015) also reported that performing regular exercises was not associated with most symptom experiences and that BMI was associated only with frequency of symptoms experiences like hot flushes, night sweats, parasthesia, athralgia/myalgia and headaches.

There is often an increase frequency of common chronic diseases such as hypertension, arthritis, heart disease and diabetes among middle aged women which may be associated with their symptoms experience (Yazdkhasti et al., 2015; Sertoglo, 2012). Similarly, Ama & Ngome (2013) further revealed a higher rate of occurrence of chronic disease during post menopausal period above other periods. Additionally, Yanikkerem et al. (2012) disclosed that post menopausal women have increased risk of diabetes, heart diseases and osteoporosis. Yanikkerem et al. (2012) further revealed that those women whom are on

medications for these medical conditions may have aggravated symptoms experiences.

There may be a relationship with being diagnosed as having one or more medical condition and menopause. Cagnacci et al. (2015) further revealed the association between menopausal symptoms experience and cardiovascular risk factors such as blood pressure, fasting glucose, fasting lipids and 10 year risk of cardiovascular disease in a hospital based retrospective survey using electronic database. Menopausal symptom experience measured using Greene climacteric scale was found to be associated with biochemical risk factors for arteriosclerosis and cardiovascular disease (Cagnacci et al., 2015). Conversely, Lambrinoudaki et al. (2012) reveal that intima media thickness (one of the measures use to assess arterial structure, function and stiffness alongside flow mediated dilation and pulse wave velocity) was higher in healthy post-menopausal women with moderate to severe symptoms than in healthy post-menopausal women with mild to no severe symptoms.

Findings from Martinez-Perez et al. (2013)'s cross sectional survey on the relationship between menopause, cardiovascular diseases and osteoporosis among middle aged Spanish women selected using random sampling technique also revealed that women with more severe symptoms had higher percentage of cardiovascular and osteoporosis risk factors and suffer more from osteoporosis than women with less severe symptoms. However the investigation was based on an assumption that the co-occurrence of these two conditions was due to their having common risks factors that includes age, oestrogen depletion, sedentary

lifestyle, alcohol consumption, smoking, calcium intake, consumption of saturated fatty acids and insufficient consumption of vitamin C and D.

Similarly, Grigoriou (2013) disclosed that menopausal women's blood pressure correlated negatively with psychosomatic symptoms experience while Martinez Perez et al. (2013) specifically revealed that prevalence of cardiovascular and osteoporosis diseases risk factors influenced the severity of symptoms experienced.

In addition, women who experienced more severe symptoms had greater percentage of cardiovascular and osteoporosis risks factor than those with mild symptoms. Furthermore, hyperthyroidism may be associated with symptoms experience. This is so as women who have hyperthyroidism are prone to undergo the experiences of palpitations, nervousness, insomnia, easy fatigability, excessive sweating and intolerance to heat which may be confused with symptoms experienced during menopausal transitions (del Ghianda, Tonacchera & Vitti, 2014).

The presence of chronic disease (Eun-Ok, 2009; Chun & Sreeramareddy, 2011) as well as medication history may be associated with symptom experience (Eun-Ok, 2009). Health problems experienced before and after menopause may be related to symptoms experiences of women undergoing menopausal transition. Ama and Ngome (2013) also revealed a strong relationship between the health problems experienced before and after menopause which includes hypertension depression, hearing impairment, memory loss, sleep problem, osteoporosis, and

visual impairment. However the difference in the proportion of women suffering from the diseases was not significant.

### **Menopause related characteristics**

Middle age women according to stages of reproductive aging workshop's criteria could either be peri-menopausal or post-menopausal. Peri-menopausal encompasses variation of more than 7 days than usual in length of cycle or two or more skipped cycle (amenorrhea more than 60 days) that continues and end at the time of permanent cessation in menstrual cycle while post-menopausal period encompasses at least a 12-month period of amenorrhea(Harlow et al., 2012).

Sievert and Lic (2003) revealed that menopausal status may predict the symptoms experiences of women undergoing menopausal transition (Sievert & Lic, 2003). In addition, the frequency and severity of vasomotor, psychological and sexual symptoms has been revealed by numerous researchers to be peculiar to peri-menopausal and post-menopausal women and to range from mildly severe symptoms experience to severe symptoms experience for most women (Waidyasekera, Wijewardena, Lindmark & Naessen, 2009; AlQuaiz et al., 2014). Likewise the prevalence of symptom experience has also been reported to be associated with menopausal status (Yang et al., 2008).

Yang et al. (2008) categorically disclosed that vasomotor and psychological symptoms were higher among peri-menopausal women while post-menopausal women frequently reported more somatic and urogenital symptoms. However, pre-menopausal women reported the lowest frequency of somatic, vasomotor, psychological and urogenital symptoms. Ceylan and Özerdoğan



(2014) on the other hand reported that peri-menopausal and post-menopausal women experienced more vasomotor symptoms than pre-menopausal women. However, post-menopausal women experienced it more frequently than peri-menopausal women (Ceylan & Özerdoğan, 2014). In addition, post-menopausal women experience the symptoms in the sexual domain more than other women while psychosocial symptoms was higher among post-menopausal women of 5 years duration or more, followed by post-menopausal women of less than 5 years duration and peri-menopausal women in decreasing order of frequency. Also, post-menopausal women experience the symptoms in the sexual domain more than other women (Ceylan & Özerdoğan, 2014).

Vanwesenbeeck et al. (2001) also made known that pre-menopausal and peri-menopausal women experienced more vasomotor symptoms than post-menopausal women while peri-menopausal women suffer slightly more psychological and vasomotor symptoms than pre-menopausal women. Furthermore, it was revealed that post-menopausal women experienced more severe vasomotor and sexual symptoms than women still undergoing menopausal transition. In addition, women with surgically induced menopause experienced the most severe symptoms experience (Vanwesenbeeck et al., 2001).

It was also made known that peri-menopausal women had higher severity scores in the psychological, anxiety, depression and somatic clusters of symptoms experience than post-menopausal women while post-menopausal women had higher scores in the vasomotor and sexual clusters of symptom experience (Gharribeh et al., 2010). Joseph et al. (2014) as well reported that menopausal

women commonly experienced joint pain, muscular discomfort, physical and mental exhaustion, peri-menopausal women commonly experienced hot flushes, physical and mental exhaustion while joint and muscle ache were the most commonly experienced by post-menopausal women.

Likewise, Chuni and Sreerarmareddy (2011) revealed that post-menopausal women had higher scores in the MRS sub scales and experienced more severe symptoms than peri-menopausal and pre-menopausal women. In addition, findings from Nisar and Sohoo (2009)'s survey also revealed that post-menopausal women scored higher in the physical domain while peri-menopausal had higher score in the psychological domain. Liu et al. (2015) also revealed that severity of menopausal symptoms experience excluding athralgia/myalgia was highest among post-menopausal women and lowest among pre-menopausal women. Also, the severity of the symptoms experience of athralgia/myalgia was highest among peri-menopausal women.

In addition, Pimenta et al. (2012) in a cross sectional community based survey disclosed the symptoms experience that was associated to menopausal status to include skin changes, hair changes, vasomotor symptoms and sexual symptoms while decline in cognitive abilities, muscular pain and urinary symptoms had nothing to do with their menopausal status.

Duffy et al. (2013) also revealed that peri-menopausal, post-menopausal and surgically menopause women reported more hot flushes than pre-menopausal

women while post-menopausal and surgically menopausal women reported more vaginal dryness.

Similarly, hot flushes was revealed by Liu et al. (2015) in a cohort study on registered nurses in Beijing, China as most strongly associated with menopausal status, other symptoms strongly associated with menopausal status were sweating, parasthesia, insomnia, athralgia/myalgia, palpitation and unsatisfactory sexual life. Conversely, Setorglo et al. (2012) reported that the association of symptom experience with menopausal status is weak and Joseph et al. (2014) equally affirmed that there was no association between severity of symptoms experience and menopausal status.

It is evident that the findings from the studies reviewed on relationship between menopausal status and symptoms experience differ. However, the persistent inconsistency in the findings from the reviewed literature may be traced to the disparity in the classification of menopausal status as well as the variation in the sample surveyed. A unique fact that cut across is the association between menopausal symptom experience and menopausal status of the study participants. However, the direction and explanation proffered to the association differs.

Asides menopausal status, time of attainment of menopause or menopausal duration is another attributes that belongs to every middle aged women. This is so as every middle age's woman's time of attainment of menopause differs. Abedzadeh-Kalahroudi et al. (2012) revealed that the severity of symptom experience differ with the duration of menopause. Lee et al. (2010)

expatiated further that severity of menopausal symptoms experience decreases with increase duration of menopause. Likewise, Pimenta et al. (2012) disclosed that time of attainment of menopause correlated positively with sexual and overall climacteric symptomatology. However, Joseph et al. (2014) revealed no association between the severity of symptoms experience and duration of menopausal symptoms experience.

Every middle aged woman also possesses diverse attitude or view towards menopause which also has the potential of determining their symptoms experience. Menopausal symptoms experience has been reported to be rarely reported in settings where attitude towards menopause is positive (Mustafa & Sabir, 2012). Grigoriou et al. (2013) opined that attitude towards menopause could differ with women between and within population and are shaped by diversity in culture, religious belief, family type, peers and media influences. However, women's value and belief system can reduce or aggravate the severity of their symptom experience (Doubova, Infante-Castaneda, Martinez-Vega, Perez-Cuevas, 2012). The more positive a woman's attitude or view towards menopause the more the possibility of enjoying their transition through menopause (Malik, 2008).

Similarly, women who belong to society where femininity is defined by women's child bearing capacity may feel negative towards attaining menopause which may result in increased severity of symptoms experience. Lee et al. (2010) also reported that women who had positive attitude reported less severe symptoms

while those with negative attitude reported more severe symptoms. Similarly, it was reported that symptoms experience of peri-menopausal women were associated with their attitude towards menopause (Eunk yung & Kyung- Hae, 2012). Likewise, Ozumba et al. (2004) revealed that women who have negative attitude towards menopause experience reported higher frequency of vasomotor symptoms.

Furthermore, pre-conceive attitude have been revealed to influence women's symptoms experience during and after menopause (Yanikkerem et al., 2012). It was also evident that women who had negative attitude towards menopause experienced more severe menopausal symptoms (Ghazanfarpour et al., 2015). Likewise, Yanikkerem et al. (2012) found that menopausal women's attitude influenced the number, frequency and severity of symptoms experienced. Women with negative attitude had higher scores in vasomotor, physical, psychosocial and sexual symptoms than women whose attitude were positive. In addition, the belief of a particular society regarding menopause and its effects on women predicts the type of coping strategies their midlife women will employed (Yanikkerem et al., 2012)

Wong and Nur Liyanna (2007) revealed magazines, families and newspaper as the middle aged women's three main sources of information on menopause. Other sources of information also revealed include radio and television, friends, medical personnel, internets and pamphlets in descending order.

The culture, values and norms that operate in middle age women's society, their knowledge and symptoms experience as well as their attitude to menopause determines may be responsible for their approach to symptoms management . Ilo et al. (2015) revealed visiting the drug store, as the most commonly employed strategy utilised to manage symptoms experience by Nigerian women. Other symptom management strategy employed were ignoring and life style modification while the least employed strategies in decreasing order of frequency were prayer intervention, visiting hospital for medical treatment, using herbal preparation and Hormone replacement therapy.

Gharaibeh et al. (2010) revealed that, Jordanian women did not seek medical treatment nor utilise HRT despite the high report of symptoms experience among them. While, Mushtaq and Ashai (2014) also made known that, the Indian women surveyed did not consult anyone for their symptoms relieve, did not use herbal preparations or use stress reduction strategies like yoga, acupuncture and meditation. However, a few of the Indian women surveyed rely on prayers for their symptoms management.

On the contrary, Wong and Nur Liyanna (2007) opined that traditional remedies such as exercise and vitamins supplement were more effective in overcoming the signs and symptoms of menopause rather than HRT. Furthermore, turning to family members for support was reported as more likely than turning to medical personnel, friends, or counsellors (Wong & Nur Liyanna, 2007).

Mustafa and Sabir (2012) reported that women's popular perception of menopause as a natural phenomenon just like puberty and menstruation, may be responsible for their failure to seek medical intervention. Similarly, Jack-Ide et al. (2014) reported spiritual prayers, having cold baths, wearing light clothes, use of native herbs, learning from experiences of older women and seeking medical interventions in decreasing order of frequency. Agwu et al. (2008) equally revealed that women who experience sexual problems would rather seek traditional or spiritual intervention than medical intervention. In addition it was made known that, the use of alternative medical practices such as botanically based/herbal medicines, dietary supplements, vitamins, minerals and orthomolecular medicines was widely used by women who experience menopausal symptoms experience.

Numerous researches have also been done on Nigerian women's attitude towards menopause. Interestingly, majority of Nigerian women have been reported to have positive attitude towards menopause. Positive attitude towards menopause was shown by their view of menopause as a normal event that brings relaxation, respects, freedom both psychologically, spiritually and economically from monthly bleeding, restrictions from worshipping God, fear of getting pregnant and cost of sanitary pad (Osarenren, Ubangha, Nwandinigwe & Ogunleye (2009); Ama & Ngome, 2011; Saka et al., 2012; Ande et al., 2011; Ilo et al., 2015).

Other Nigerian women have also been reported to have had negative attitude towards menopause due to the impact of the symptoms that accompanies it on their health, body image (loss of youthfulness) and marital relationships

(Jack-Ide et al., 2014 ). These views are similar to those reported by Kaulagekar (2010) in a qualitative study conducted on urban women from Pune, Maharashtra, as well as those of Malik (2008) on Karachi middle aged women.

Menopausal type or the modality through which women attain menopause is another attribute peculiar to individual women and a factor that may predict menopausal symptoms experience. Yang et al (2008) revealed that women with induced menopause experienced more symptoms than women with natural menopause. Eun-Ok (2009) also revealed that hysterectomy status was associated with certain symptoms experience. On the contrary, Grigoriou et al. (2013) reported no association between menopausal type (natural and surgical) and assessed symptom experience. However, disparities in sample selection may justify the variation in these findings.

### **Gap in literatures**

Even though the reviewed literatures gave an inestimable insight to the pattern of symptoms experience in different countries, there is an extensive discrepancy in the pattern of symptoms experienced reported which may be due to methodological issues like variation in sample and sampling technique, settings, instruments used to assess symptoms experience, diversity in culture, norms and traditions, as well as diet and other lifestyle factors. These implies that findings obtained from researches reviewed may be inappropriate and unreliable for health professional caring for working midlife women in Oyo state Nigeria.

Also, to the best of the researcher's knowledge there is insufficient information globally on the extent of distress of symptoms experience by midlife



women. Similarly, a gap in information exists describing the severity and distress of symptoms experience of Nigerian women. This is so because the Nigerian menopausal researches reviewed only examined symptoms experiences of Nigerian women in terms of frequency.

Furthermore, it is surprising to notice that to the best of the researchers knowledge menopausal researches conducted in Nigeria have been conducted on rural women and women who are either self employed or not employed. It is however impressive to note that studies have been carried out in some countries on urban, educated and employed individuals. Unfortunately, it is impossible to make direct comparison or generalise the findings from the studies that have been conducted there as wide disparities exist in the findings.

Also, to the best of the researcher's knowledge there is paucity of information on the impact of symptoms experiences on women's physical, psychological and social health status most especially in Nigeria. It is therefore important that studies be conducted on the health status of educated and employed Nigerian women working through their symptoms experience in order to generate information peculiar to them. This will help to generate information that will be useful to Nigerian health professionals on the implication of menopausal symptoms experience on working Nigerian women's health so as to equip them with the adequate knowledge needed to assist these women modulate their symptoms experiences. For this reason, this study intends to investigate the symptoms experience of Nigerian women in terms of presence, severity and distress as well as in relation to the symptoms management strategies employed

and perceived health status in order to provide information that will fill existing gap in literature.

### **Chapter Summary**

This chapter introduced the conceptual base of the study, it also delve into literatures relevant to the identified concepts. Findings from the numerous literature reviewed however revealed an extensive discrepancy in the characteristics of symptoms experience by midlife women globally.

Likewise, comparisons of these findings was limited by methodological issues like variation in sample and sampling technique, settings, instruments used to assess symptoms experience, diversity in culture, norms and traditions, as well as diet and other lifestyle factors.

Also to the best of the researcher's knowledge, no direct study was found on the implication of menopausal symptoms experience on women's health. However, an interrelation has being discovered between symptoms experiences and health status. The review of literature also revealed that most of the attributes of middle aged women have relationship with symptoms experienced during menopause.

The list of the attributes revealed is large and includes age, marital status, marital satisfaction, absence of partner, history of pregnancy/parity, family type, numbers of children or relatives living with menopausal women, educational attainment, employment status and area of residence, being on chemotherapy, radiations, previous reproductive surgeries like oophrectomy and hysterectomy,

co morbidities, basal metabolic index, lifestyle modification like diet and exercise performance and frequency, pre menstrual syndrome, hormonal contraceptives and being on hormone replacement therapy, menopausal status duration of menopause, prior menopausal knowledge, sources of menopausal knowledge, menopausal view/attitude, and menopausal symptoms management.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

This chapter flows in this order: research design, study area, population, sampling procedure, ethical consideration, data collection instruments, data collection procedures, data processing analysis and the chapter summary.

#### **Research Design**

This study utilised a cross sectional descriptive survey design to describe and interpret the implication of menopause on women's health in order to afford the study the opportunity to proffer answers to the research questions guiding this research study. This design method was considered the most suitable method as it affords the research the opportunity to answer research questions through the collection of data by questionnaire survey, interviews, or observations without allowing the researcher control regarding the current status of the study participants (Gay, Mills & Airasian, 2006).

However, despite the fact that cross sectional descriptive survey research design is very simple and straightforward and has been basically revealed to target proffering answers to the questions that form the basis of the study, it has its weakness. It often suffers from lack of responses which may emanate from the inability of the problem under investigation to have sufficient significance that will motivate the study participants as well as inappropriate sample selection that could potentially pose a threat on the interpretation of findings and derivation of a genuine conclusion (Gay et al., 2006).

Therefore, cross sectional descriptive survey research design demands that during execution, careful measures be put in place to ensure the selection of appropriate samples that have the desired information and are likely to give it. Also, that the response rate for each item, the total sample size and overall percentage of returns be clearly stated at the results analysis stage so as to facilitate accurate data interpretation and genuine conclusion,

### **Study Area**

This study was carried out among middle aged women working in basic schools under the Ibadan north local government area of Ibadan, Oyo state Nigeria. Ibadan the capital of Oyo state is located in the south western part of Nigeria and south eastern part of Oyo state about 120 km east of the boarder of Benin in the forest zone close to the boundary between the forest and the savannah which earned it its name Ibadan (*Eba-Odan*) meaning the city at the edge of savannah (The official website of Oyo state: the pace setter state, 2016).

Ibadan experiences a lengthy wet season from March through October and the typical West African harmattan from November to February. It also has a relatively constant temperature throughout the course of the year. Ibadan comprises of 11 local governments made up of five urban in the city and six semi urban local governments in the less cities. Local governments are third tiers of the government in Nigeria and are institutions created by the military government but recognised by the 1999 constitution. Ibadan north local government, one of the local governments in Ibadan has its headquarters in the Agodi area of Ibadan (The official website of Oyo state: the pace setter state, 2016).

Ibadan North Local Government encompasses 10 areas which are: Abadina, Oniyanrin, Oke-Are, Mokola, Nalende, Sango, Ijokodo, Bodija, Kube and Yemetu. The local government also comprises of many departments including the education department under which the Oyo State Universal Basic Education Board, Ibadan North Local Government belongs. Oyo State Universal Basic Education Board, Ibadan North Local Government is divided into 10 zones based on the areas the local government covers namely: Abadina, Oniyanrin, Oke- Are, Mokola, Nalende, Sango, Ijokodo, Bodija, Kube and Yemetu zones (Appendix C). Each zone has an average of 8 schools per zone and approximately 75 women ages 45 and 60 per zone (Appendix C).

### **Population**

The target population for the study comprised all women whose age ranges from 45 and 60 years and teaches in basic schools under the jurisdiction of Ibadan North Local Government area of Oyo State Universal Basic Education Board Nigeria at the time of data collection. Women between the ages of 40 and 60 years were particularly chosen in order to maximise the probability of identifying peri and post-menopausal women and as such have the likely information required in the study.

It is assumed that the basic education sector which is dominated by obvious and available women who are between the ages of 40-60 years and who have experienced menopause within the context of their multiple role performance. Also, that these category of women will be willing to improve their health status by disclosing the needed information that will contribute to the body

of knowledge of health personnel on menopause and as such lead to the improvement of their health.

### **Sampling Procedure**

According to Kothari and Garg (2013) a rational approach is required in the estimation of sample size in other for the size to be large enough to accommodate the confidence interval and to cater for dispersion factor. The sample size was determined using the formula below:

$$n = \frac{z.p.q.N}{e^2(N-1) + z^2.p.q}$$

The sampling error or level of precision (e) is  $\pm 5\%$  at 95% confidence interval, standard score (z) for confidence level of 95% = 1.96, degree of variability of attributes being measured is 50% and population size (N) = 750. The calculated sample size for the study is 255 women out of the entire target population (750women).

A cross sectional descriptive survey design requires that sample be carefully drawn from the study population to represent all relevant subgroups in the population (Gay et al., 2006; Kothari & Garg, 2013). Therefore, multistage random sampling technique was used to select schools under Ibadan North Local government. At the first stage, four out of the 10 zones that made up the local government was randomly selected using ballot method. The zones selected were Kube zone, Nalende zone, Yemetu zone and Mokola zones. These zones have seven, seven, ten and eight numbers of schools respectively. Afterwards, 20

schools were again randomly selected from the 32 schools that made up the four randomly selected zones using ballot method.

*Inclusion criteria* - All women working in the selected schools, between the ages 40 and 60 years.

*Exclusion criteria* – Women below 40 years of age, women between 40 and 60 years of age who do not consent to participate in the study or who decide to withdraw from the study were excluded from the study.

The 20 selected schools had a total of 325 middle aged women within 40-60 years of age at the time of data collection. However, only 300 eligible women consented to participate in the study.

### **Ethical consideration**

Ethical approval was obtained from the University of Cape Coast Institutional Review Board (UCC IRB) before embarking on data collection (Appendix A). Thereafter, an official letter was submitted to the education board of Ibadan North Local Government, Oyo state introducing the researcher, the research and seeking permission to carry out the study in selected schools under their local government and data collection was commenced upon approval (Appendix B).

Prior to data collection, intended study participants were given UCC IRB approved consent form which was written in a clear and straight forward language informing them of the purpose of the study, participant's right in the study,



benefits and risks of the study, and assuring the study participants of anonymity and confidentiality of information given (Appendix D).

### **Data Collection Instrument**

A self-administered questionnaire made up of three sections was used as instrument of data collection for this study (Appendix E). Section A addressed the demographic, individual health characteristics and menopausal characteristics based on literature findings. Section B addresses the characteristics of symptoms experienced by study participants using the 11 symptoms of menopause listed in the Menopause Rating Scale.

Menopause Rating Scale is a well-known globally self administered questionnaire that has been used by numerous researchers for assessing the severity of menopausal related symptoms experience (da Silvar & D'Andretta Tanaka, 2013, Lee et al.,2010; Chuni & Sreeramareddy, 2011; AlQuaiz, Siddiqui, Tayel & Habib, 2014; Elsabagh & Abd Allah, 2012; Al-Olayet et al., 2010; Joseph et al., 2014; Chou et al., 2014). However, this study adapted the 11 listed menopausal related symptoms in the Menopausal Rating Scale to examine the characteristics of symptoms experienced in terms of the presence/occurrence of symptoms experienced rated in terms of yes or no, severity rated from zero (no complaints) to four (very severe symptoms) in the past one week from time of data collection, and distress also rated from zero (no complaints) to four (very severe symptoms) in the past one week from time of data collection.

Furthermore, section C comprises of five domain addressing the physical, cognitive, emotional, social functioning and role performance dimensions of

health using the World Health Organisation Quality of life domain and facets (Skevington et al., 2004) as a guide. Each domain containing different numbers of items was rated using five scales from 1(*very poor*) to 5 (*very good/ very well*).

In an attempt to come out with a good questionnaire that will be easily responded to by all respondents, the initial draft of the questionnaire was given to the research supervisors to ascertain both content and construct validity. It was also pre-tested on 20 women working in Ibadan north east local government Oyo state primary education board to ensure clarity of all question asked. Findings from the pre-testing conducted pointed out some ambiguous medical terms that was used in the questionnaire and wrongly assumed to be generally known by all the women in the study for modification and this helped in the finalisation of the instrument.

### **Data Collection Procedures**

Questionnaires were administered to study participants during working hours over a period of six weeks within the month of April and May by the primary investigator. In the course of retrieving the questionnaires 15 questionnaires were not returned while an additional 17 were not completed.

Data entered into the SPSS (Statistical Package for Social Science software package) software version 21 alongside the processed data were secured on the primary investigator's laptop computer with password protected while raw data (questionnaires) were secured by the primary investigator in a cabinet with lock.

Menopausal status was determined based on study participants' last menstrual period. Women who still have normal menstrual cycles or experiencing a slight change in the length of cycle or cessation in menstrual cycle less than 11 months were classified as menopause transition or peri-menopausal, while women whose last menstrual period occurred 12 months or more ago were categorized as post-menopausal.

A 5 point English scale instrument identified by none (1), a bit (2), some (3), much (4) and very much (5) was used for all items in the section c of the research instrument. Higher score scores denotes a good perception of health and functional status (WHO QOL Group, 1998) while those with average scores had fair and those with below average scores have poor perception of their health and functional status.

### **Data Processing and Analysis**

After the required information was gathered, the data was carefully entered into SPSS (Statistical Package for Social Science software package) software version 21. Data editing was done to ensure that only complete data were presented for analysis. In order to quantify the data, collected data were coded and processed through SPSS software version 21 for statistical analysis.

Data analysis was done using two approaches namely, descriptive and analytical approaches. The descriptive approach entails the presentation of data in frequency and percentages, while the analytical approach was used to analyse the association between the independent and dependent variables using chi square

analysis to test for levels of significance. P value less than 0.05 were considered as statistically significance.

### **Chapter Summary**

Cross sectional descriptive research survey was adopted for the study to describe and interpret the findings that emanated from the study in an attempt to meet the aim and objectives of this study. Also, all the essential precautions that the design demands were taken into consideration in order to overcome possible limitations that could have resulted from the failure to put these precautions in place. However, despite putting all the necessary precautions in place, this study may suffer from the following limitations.

A possible limitation of this study is lack of responses which may emanate from failure of the problem under investigation to generate findings with sufficient significance which could pose a threat on the interpretation of findings and derivation of a genuine conclusion. Another limitation that could emanate from the study is bias which could occur in the form of recall or self-serving bias. Recall bias refers to that which might have influenced the information that were obtained from questions that demanded that study participants recall their symptoms experience in the past.

Self-serving bias could also be presented by study participants in their responses to the question due to fear of being identified or tagged as being unhealthy, unfit for work or a concern for job security.

## **CHAPTER FOUR**

### **FINDINGS AND DISCUSSIONS**

The purpose of this cross sectional study was to examine the symptoms experienced and its implication on the health status of middle aged women working in schools under Ibadan North Local Government Oyo State Universal Basic Education board. The schools were selected from four randomly selected zones using simple random sampling technique and all middle aged women who met the inclusion criteria were proposed for the study.

However, only 300 eligible women consented to participate in the study. Hence, a total of 300 questionnaires were distributed among study participants. However, 15 questionnaires were missing upon retrieval and a total of 285 were returned. The 285 retrieved questionnaires were sorted out in preparation for data analysis and 17 were eliminated from analysis due to incompleteness while the remaining 268 (89.3%) was used for analysis.

This chapter is divided into three sections. The first section presents the findings that emanate from this study while the second session covers the discussion of the findings. In the first section, both descriptive and analytical statistics was used.

A thorough description of the demographics, individual health characteristics and menopause related attributes of study participants was made using frequency and percentages. Frequency and percentage was also utilised to describe the symptoms experienced by study participants using the defining attributes of symptoms presence/occurrence, severity and distress as well as assessment of the impact of menopausal symptoms on study participants' health domains. Thereafter, associations between variables was analysed using Pearson's chi square where p value was considered significant at 0.05 level of significance.

The second section covers the discussion of findings, organised according to the objectives of the study with discussion of relevant literatures accompanying each finding. The third section reviews the implications of the findings to nursing practice, research and policy making.

## Findings

Table 1

*Frequency and Percentage of Demographic Attributes of Study participants*

Demographic Attributes	Frequency (268)	Percentage (%)
Age:		
a) 40-44	77	28.7
b) 45-49	90	33.6
c) 50-54	73	27.2
d) 55 and above	28	10.4
Marital status:		
a) married	248	92.5
b) widowed	11	4.1
c) divorced	9	3.4
d) single but cohabiting	0	0
Marriage type:		
a) polygamy	31	11.6
b) monogamy	237	88.4
Religion:		
a) Christianity	219	81.7
b) Islam	48	17.9
c) Traditional	1	4.0
Number of children living with:		
a) no child	4	1.5
b) 1-2 children	87	32.5
c) 3-4 children	150	56.0
d) $\geq 5$ children	27	10.1

Source: Field survey, 2016

Table 1 shows the demographic attributes of the study participants. The age group of the women studied spread across the first three age groups while only 10.4% belonged to 55 years and above age group with their marital status revealing that majority (92.5%) were married while few others were divorced or widowed but in relationship. It is also evident from the table that monogamous marriage was the most common marriage type (88.4%) reported by study participants while 11.4% practiced polygamous type of marriage. As well, over three quarter of the study participants were Christians while less than a quarter were Islamic worshippers and only 4.0% practiced traditional religion. In addition, over half of the study participants had more than three children living with them.

Table 2

*Frequency and Percentage of Health Attributes of Study Participants*

Health attributes	Frequency	Percentages
<b>Premenstrual syndromes:</b>		
a) mood changes	220	27.1%
b) abdominal pain	246	30.3%
c) headaches	23	2.8%
d) body pain	86	10.6%
e) tender/uncomfortable breast	228	28%
f) nausea	10	1.2%
<b>Current medical illness</b>		
a) hypertension	36	44.4%
b) bone and joint pain	25	30.9%
c) diabetes mellitus	16	19.8%
d) asthma	4	4.9%
Exercise performance	68	25.4%

Source: Field survey, 2016



Table 2 reveals the health attributes of the study participants. Abdominal pains as well as mood changes were the most common pre menstrual syndromes study participants reported they experienced prior menstruation. 30.1% of the study participants reported having history of experiencing abdominal pain prior to their menstrual flow while 27.1% reported having history of experiencing mood changes prior to their menstrual flow.

History of experiencing tender/uncomfortable breast was also reported by 28% of the study participants while 10.6% reported experiencing body pains prior to menstrual flow and headaches were the least reported pre menstrual syndromes as only 2.8% reported experiencing headaches.

As regards study participants medical history, 44.4% of the study participants reported having a history of hypertension, 30.9% bone and joint pain, while 19.8% experience diabetes mellitus and 4.9% were asthmatic. Also, it was evident that only 25.4% of the study participant performed exercise.

Table 3

*Frequency and Percentage of Menopausal Attributes of Study Participants*

Menopausal attribute	Frequency	Percentages
<b>Menopausal status</b>		
a) peri-menopausal	189	70.5%
b) post-menopausal	79	29.5%
Previous knowledge of menopause	268	100%
<b>Source</b>		
a) mothers, sisters / family	262	69.3%
b) friends/colleagues	47	12.4%
c) health professionals	51	13.5%
d) TV/newspaper/books/online	18	4.8%
e) seminar/conferences	0	0%

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Menopausal views		
a) natural events	268	51.8%
b) loss of youthfulness	50	9.7%
c) mark of respect	92	17.8%
d) end to marital relationship	107	20.7%

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Source: Field survey, 2016

Table 3 reveals the menopausal attributes of the study participants. Over two third (70.5%) of the study participants were undergoing menopausal transition (peri-menopausal) while less than one third (29.5%) were post-menopausal. In addition, all the study participants reported having previous knowledge of menopause.

However, their sources of previous knowledge about menopause differ. Majority (69.3%) indicated source of previous knowledge about menopause as mother, sister and family members while 13.5% reported health professional as sources of previous knowledge about menopause and 12.4% friends or colleagues at work. As well, 4.8% reported to have heard about menopause from TV, newspaper, books or online sources while none of the study participants got their knowledge from seminars and conference.

Furthermore, 51.85% of the study participants consider menopause has a natural event while 17.8% views menopause is a mark of respect However, 20.7% considers it as an end to sexual relationship and 9.7% views that it is accompanied by loss of youthfulness.

Research Question One: Which symptoms are experienced by women working in schools under Ibadan North Local Government area of Oyo State Universal Basic Education Board during menopausal period?

Table 4

*Frequency and Percentage of Symptoms Experienced by Study Participants*

Symptoms Experienced	Frequency	Percentage
Hot flushes	103	38.4%
Sleep problems	112	41.8%
Heart discomfort	37	13.8%
Joint and muscular discomfort	93	34.1%
Anxiety	107	39.9%
Depressive mood	97	36.2%
Physical and mental exhaustion	214	79.9%
Irritability	100	37.3%
Vaginal dryness	106	39.6%
Sexual problems (desire, activity and satisfaction)	165	61.6%
Bladder problem	10	3.7%

Source: Field survey, 2016

Table 4 reveals the responses regarding the types of symptoms experienced by study participants. Physical and mental exhaustion (79%) as well as sexual problems (61.6%) were the commonest menopausal symptoms reported by study participants while bladder problems (3.7%), heart discomfort (13.8%), joint and

muscular discomfort (34.7%), depressive mood (36.2%), irritability (37.3%), hot flushes (38.4%), vaginal dryness (39.6%), anxiety (39.9%) as well as sleep problem (41.8%) were the least reported symptoms experience in increasing order.

Research Question Two: What is the pattern of the symptoms experiences of women working in schools under Ibadan North Local Government area of Oyo State Universal Basic Education Board?

Table 5

*Frequency and Percentage of Symptoms Experience in Terms of Severity*

Symptoms	Not at all	Slightly severe	Moderately severe	Severe
Hot flushes, profuse sweating	193 (72%)	58(21.6%)	16(6.0%)	1(0.9%)
Sleep problems	180(67.2%)	35(13.1%)	51(19.0%)	2(0.7%)
Heart discomforts	241(89.9%)	21(7.8%)	6(2.2%)	0(0.0%)
Joints and muscular discomforts	191(71.3%)	20(7.5%)	49(18.3%)	8(3.0%)
Anxiety	191(71.3%)	61(22.8%)	16(6.0%)	0(0.0%)
Depressive mood	212(79.1%)	50(18.7%)	6(2.2%)	0(0.0%)
Physical and mental exhaustion	62(23.7%)	24(9.0%)	81(30.2%)	101(31.1%)
Irritability	210(81.0%)	39(14.5%)	9(3.4%)	3(1.1%)
Vagina dryness	167(62.3%)	0(0.0%)	13(4.9%)	88(32.8%)
Sexual problems	116(43.3%)	35(13.1%)	24(9.0%)	93(34.1%)
Bladder problems	260(97.0%)	7(2.5%)	1(0.4%)	0(0.0%)

Source: Field survey, 2016

Table 5 reveals the response of study participants regarding the severity of symptoms experience. Physical and mental exhaustion (76.3%) as well as sexual

problem (56.7%) were severe for majority of the study participants. However, other symptoms experiences were not severe for majority of the study participants. The extent of severity of physical and mental exhaustion reported by study participants ranges from slightly severe (9%), to moderately severe (30.2%) and severe (31.1%) while severity of sexual symptoms reported were slightly severe (13.1%), moderately severe (9%) and severe (54.1%).

Also, sexual problems (34.1%), vaginal dryness (32.8%) as well as physical and mental exhaustion (31.1%) were the highest reported severe symptoms in decreasing order. However, vaginal dryness was reported by majority of the study participants (62.3%) as not severe.

Table 6

*Frequency and Percentage of Symptoms Experiences in Terms of Distress*

Symptoms	Not bothered	Slightly bothered	Moderately Bothered	Seriously Bothered
Hot flushes, profuse sweating	233(86.9%)	27(11.1%)	6(2.2%)	2(0.7%)
Sleep problems	203(75.5%)	53(19.8%)	11(4.1%)	1(0.4%)
Heart discomforts	252(94.0%)	16(6.0%)	0(0.0%)	0(0.0%)
Joints and muscular discomforts	198(73.9%)	50(18.7%)	19(7.1%)	1(0.4%)
Anxiety	233(86.9%)	35(13.1%)	0(0.0%)	0(0.0%)
Depressive mood	249(92.9%)	17(6.3%)	2(0.7%)	0(0.0%)
Physical and mental exhaustion	75(28.0%)	121(45.1%)	67(25.0%)	5(1.9%)
Irritability	238(88.8%)	30(11.2%)	0(0.0%)	0(0.0%)
Vagina dryness	166(61.9%)	37(13.8%)	62(23.1%)	3(1.1%)
Sexual problems	210(78.4%)	34(12.7%)	20(7.5%)	4(1.5%)
Bladder problems	265(98.9%)	3(1.1%)	0(0.0%)	0(0.0%)

Source: Field survey, 2016

Table 6 reveals the response of study participants regarding the distress of symptoms experience reveals physical and mental exhaustion (72%) as the most common symptoms experience majority of the study participants were bothered about. However, the degree of distress reported by study participants regarding physical and mental exhaustion vary from slightly bothered (45.1%), moderately bothered (25%) and extremely bothered (1.9%). In addition, physical and mental exhaustion as well as vaginal dryness were the most common symptoms experience study participants were moderately bothered about. It is also important to note that some study participants were slightly bothered by all the symptoms experiences.

Research question Three: How do menopausal women working in schools under Ibadan North Local Government area of Oyo State Universal Basic Education Board perceive their health?

Table 7

*Frequency and Percentage of Study Participants' Health Perception*

Health domain	Good	Fair	Poor
Physical health	171(63.8%)	96(35.8%)	1(0.4%)
Cognitive health	168(62.7%)	72(26.9%)	28(10.4%)
Emotional health	144(53.7%)	122(45.5%)	2(0.8%)
Social functioning	126(47.0%)	135(50.4%)	7(2.6%)
Role performance	126(47.0%)	87(32.5%)	55(20.5%)

Source: Field survey, 2016

Table 7 reveals the health perception of study participants, over half of the study participants perceived their physical health (63.8%), cognitive health (62,7%) and emotional health (53.7%) as good. while less than half of the study

participants perceived their physical health (36.2%), cognitive health (37.3%) and emotional health (46.1%) as not good (ranging from fair to poor).

Reverse was the case concerning the social functioning and role performance domains of health of study participants as a little below half perceived social functioning (47%) and role performance (47%) as good. However, over half of the study participant perceived their social functioning (53%) and role performance (53%) as not good (ranging from fair to poor).

Research Four: Does the number of symptom experienced by women working in schools under Ibadan North Local Government area of Oyo State Universal Basic Education relate to their attributes?

Hypothesis I: There is no significance relationship between the number of symptoms experienced and age of study participants.

Hypothesis II: There is no significant relationship between number of symptoms experienced and menopausal status of study participants

Table 8

*Frequency and Percentage of Number of Symptoms Experience among Study Participants*

Number of symptoms	Frequency	Percentage
No	29	10.8
1-3	54	20.2
4-7	174	64.9
8-11	11	4.1

Source: Field survey, 2016

Table 8 reveals the number of symptoms experienced by study participants, a tenth of the study participants had no symptoms experience, two tenth had less than three symptoms while majority of the study participant experienced between four and seven symptoms and only a few experienced more than eight symptoms.

Table 9

*Relationship between Number of Symptoms Experience and Age*

Age	Number of symptoms experience				x <sup>2</sup>	Df	P	N
	None	Less than 3	4-7	8-11				
40-44	11(14.3%)	20(26.0%)	43(55.8%)	3(3.9%)	27.395	9	0.001	26
45-49	14(15.6%)	22(24.4%)	48(53.3%)	6(6.7%)				
50-54	4(5.5%)	11(15.1%)	58(79.5%)	0(0.0%)				
55-60	0(0.0%)	1(3.6%)	25(89.3%)	2(7.1%)				

Source: Field survey, 2016

Table 9 reveals the number of symptoms experience was highest among study participants above 50 years. 100% of the study participants between the age group of 55-60 years experienced one symptom or the other, 94.6% of study participants between the age group of 50-54 years experienced one symptom or the other, 85.7% of the study participants between the age group of 40-45 years experienced one symptom or the other while 84.4% between the ages of 45-49 years



experienced one symptom or the other. In addition, findings from the table shows that the p value is less than 0.05 therefore the null hypothesis (hypothesis I) is rejected and restated thus there is significant relationship between occurrence of symptoms experience and age group of study participants.

Table 10

*Relationship between Number of Symptoms Experience and Menopausal status*

Menopausal status	Number of symptoms experience				x <sup>2</sup>	Df	P	N
	None	Less than 3	4-7	8-11				
Peri-menopausal	24(12.7%)	44(23.3%)	115(51.8%)	8(4.2%)	7.840	3	0.049	268
Post-menopausal	5(6.3%)	10(12.7%)	61(77.2%)	3(3.8%)				

Source: Field survey, 2016

Table 10 reveals that symptoms experience was highest among post-menopausal women (93.7%). It also reveals that the p value is less than 0.05 therefore the null hypothesis (hypothesis II) is rejected and restated thus there is significant relationship between occurrence of symptoms experience and age group of study participants.

In summary, descriptive and analytical statistical approach in the form of frequencies, percentage and Pearson's chi square has being used to present the data obtained from the variables in this study.

### **Discussion of Findings**

This section discusses the findings that emanate from this study as well as presents literatures relevant to the findings.

There is a considerable variation in the pattern of symptoms experience of menopausal women not only in different countries but also within the different areas of a county. The variation may be linked to the diversity of culture, norms, tradition as well as diet which are in practice in the diverse countries (Yanikkrem et al., 2012). In addition, menopausal symptoms have been examined in almost all the countries of the world. However, the occurrence as well as the characteristics of these symptoms experiences in terms of its severity as well as distress of symptoms experienced differs from and across societies.

Yanikkrem et al. (2012) revealed hot flushes, feeling tired or worn out, night sweats, feeling anxious or nervous, aches in muscles and joints and weight gain as the most frequently occurring symptoms among Turkish women in a hospital based cross sectional study. In a community based cross sectional survey

Lu et al. (2007) also surveyed Arabic women revealed that the most frequently occurring symptoms experienced in the previous week were feeling tired or worn out, aches in muscles and joints and night sweats.

Also amidst Iranian women, it has been revealed that the prevalence of symptoms experienced was high. Ghazanfarpour et al. (2015) in a hospital based cross sectional study revealed the most common menopausal symptoms experienced among Iranian women as joint and muscle pain followed by anxiety or nervousness, low backache and sweats. Hot flushes, insomnia and irritability were also revealed by Martinez-Perez, Palacios, Chavida and Perez (2013) as the most common symptoms experienced hospital based cross sectional survey among Spain women.

Furthermore, a cross sectional hospital based survey among midlife women made known that the most frequent menopausal symptoms experienced by Nepalese peri-menopausal and post-menopausal women were hot flushes and sleeping disorder while physical and mental exhaustion and sleeping disorders were the most frequent symptoms experienced by pre-menopausal women. (Chuni & Sreerarmareddy, 2011) Nisar and Sohoo (2009) in a hospital based cross sectional survey also reported body aches, lack of energy, decrease physical strength and hot flushes as the most frequently experienced symptoms experienced by the middle aged Isra women surveyed in a period of six months preceding the survey while increase in facial hair was the least reported symptom experienced.

In Nigeria, Ozumba (2004) revealed that hot flushes were the most frequently occurring symptom during menopausal transition. Hot flushes, fatigue and joint pains were also reported by Jack-Ide et al (2014) as the most frequently experienced symptoms experience among Nigerian women from a rural community in the eastern part. Ilo et al (2015) also revealed menstrual irregularities, sleeping problems, hot flushes and joint pains as the most commonly occurring symptoms experienced among middle aged Nigerian women.

In addition, Ande et al (2011) revealed that the most commonly reported symptoms experience includes joint pains, hot flush and night sweats in decreasing order of frequency. Agwu et al. (2008) in a cross sectional survey involving purposively selected women who attended a seminar in a state in the south western part of Nigeria also reported the major symptoms at menopause to include hot flashes, sweating, urinary frequency, vaginal dryness, discomfort or discharge, lack of concentration, and irritability in decreasing order of occurrence.

The findings of this study regarding symptoms experience of women studied are consistent with those of Chuni and Sreerarmareddy (2011), the most common menopausal symptoms experienced were physical and mental exhaustion experienced by 79% of the study participants as well as sexual problems experienced by 61.6% of the study participants. Also, they are congruent with those of Ghazanfarpour et al (2015), as all the women who participated in this study experienced at least one symptom.

On the issue of severity of symptoms experience, Martinez-Perez, Palacios, Chavida and Perez (2013) reported that majority reported mildly severe to moderately severe symptoms while only a few experienced severe symptoms. However, Chuni and Sreerarmareddy (2011) revealed symptoms experience of hot flushes ranges from very severe to severe and other symptom experience like anxiety, depressive moods, irritability and vaginal dryness were reported as severe. While, in a cross sectional clinic based survey of middle aged women selected using convenience sampling reported Gharaibeh et al. (2010) revealed that hot flushes and sweating at night were the most severe symptoms experienced by Jordanian women.

Joseph et al. (2014) also revealed a high prevalence and severity of somatic, psychological and urogenital symptoms experience among Indian women surveyed in a hospital based cross sectional study in the Southern Canara district while Al-Olayet also reported that the symptoms experiences of hot flushes and excessive sweating was found to be severe for all the women studied.

The findings of this study are similar to those of Martinez-Perez, Palacios, Chavida and Perez (2013), only a few of the study participants experienced severe symptoms experience with the exception of sexual problem, vaginal dryness and physical as well as mental exhaustion. Majority of the study participant reported that their symptoms experience s were not severe while some reported that their symptoms experience ranged from slightly severe to moderately severe. The reason why study participants reported their symptoms experience as not severe may be due to the fact that they all had previous

knowledge about menopause and might have accepted menopause together with its accompanied symptoms prior to their occurrence. Further qualitative research studies are needed to explore the reasons for such findings.

Concerning how distressed study participants are about their symptoms experienced, limited studies have delved into this aspect of menopause. Eden and Wylie (2009) in a review on quality of sexual life and menopause revealed that hot flushes remain the most commonly reported distressful symptom among women with the distress high among pre-menopausal, higher among early peri-menopausal and highest at the late peri-menopausal phase after which it reduce at the post-menopausal phase.

Eden and Wylie (2009) also revealed that not all women who experience the symptoms of menopausal transition are distressed by them or find the symptoms bothersome. Similarly, Lu et al. (2007) disclosed that post-menopausal women experience more distress from their symptoms experiences than pre-menopausal and peri-menopausal women.

In line with previous literatures on distress of symptoms experience, this study reveals that not all women are distressed by their symptoms experience. Specifically, majority of the study participants were not bothered by their symptoms experience this may be due to the menopausal status of study participants as majority of the study participants were peri-menopausal women (70.5%) who were still undergoing ovarian function decline and not halt (Lu et al., 2007).

The finding of this study that, physical and mental exhaustion (25%) as well as vagina dryness (23.1%) were the most common symptom experience study participants were bothered about also differs from those of Eden and Wylie (2009) which reveals that hot flushes remain the most commonly reported distressful symptom among women. However, it is important to note that there was a low report of distressful symptoms among study participants which may be due to the fact that all the study participants had prior knowledge of menopause and as a result were not bothered as they have been anticipating the symptoms that accompany menopause.

The absence of an alarming wane in physical as well as emotional health perception was recorded in this study as only very few study participants' physical and emotional health domain fell within the range of poor health status. This finding contrast those of Mishra, Brown, and Qual (2003)'s findings from their longitudinal study in Australian on middle aged women's health which revealed that the middle aged women experience a wane in the physical domain of health while experiencing menopausal transition. However, low incidence of medical ailments among study participants may be a possible clue to this finding.

Also, the findings that emanate from this study revealing that the perception of health status was not good for a sizeable number of middle aged women studied in the social functioning and role performance domain implies that menopausal symptoms experiences adversely affects study participants role performance as mothers, workers, wife as well as the relationships and supports they receive from their husbands, children, relatives, friends and colleagues.

Interestingly, contemporary middle age women are involved in multiple roles as they combine marriage, motherhood, domestic work as home maker, care giving for immediate, extended family member and significant others with employment outside the home unlike the earlier generation whose predominant roles were solely marriage, motherhood and care giving (Strauss, 2013). However, Strauss further revealed that as cumbersome as those roles are, they are also intertwined that the impact of one may depend on the nature of the others. Unfortunately, difficulty or inability to perform sexual role function which was reported to be among one of the commonest problems among middle aged women studied may be a major factor responsible for middle aged women's low score in the role performance domain.

In line with this, findings from several researches have revealed symptoms experiences adversely affect women's daily lives, work lives, sexual life, relationship with the husband children and significant others (Chou et al., 2014; Mushtaq, 2011; Yanikkerem, 2012; Agwu et al., 2008). Also, Alexander et al. (2007) revealed role performance as a stressor that has tremendous effect on midlife women's physical and mental well being which may also be a clue to understanding why physical and mental exhaustion appears to be the commonest symptoms experienced by the middle aged women studied. However, the findings are not in support of Adekunle et al. (2000)'s opinion that menopausal symptoms experience had no effect on the post-menopausal women's relationship with spouse and children.



Another finding worth considering is the fact that the emotional health status of almost half of the middle aged women studied was far from good might have resulted from their perception of a not good role performance. This corroborates Eden and Wylie report that poor health status especially one impinging on role performance may impact self esteem and in turn amplify mid life women symptoms experience during menopause.

A major finding of the study is that the number of symptoms experience by study participants relates to their age and menopausal status which is in line with the proposition of Armstrong's model of symptoms experience that certain attributes influence the characteristics of symptoms experience (Peterson & Bredow, 2009). To the best of the researcher's knowledge most of the previous studies reviewed were on the association between age and severity of symptoms experience (Pimento et al., 2012; AlQuaiz et al. 2014; Grigoriou et al., 2013; Mushtaq, 2011; Joseph et al., 2014; Eun-Ok, 2009) as well as association between menopause status and severity of symptoms experience (Vanwesenbeeck et al., 2001; Gharribeh et al., 2010; Chuni & Sreerarmareddy, 2011; Nisar & Soho, 2009; Liu et al., 2015; Joseph et al., 2014). Only a few examined menopausal status in relation to the number symptoms experience (Fagula et al., 2011; Eun-Ok, 2009).

Fagula et al. (2011) revealed that menopausal symptoms experiences were more common among post-menopausal women than peri-menopausal women with the exception of irritability which was more commonly experienced by peri-menopausal women. The halt which takes place in ovarian function amidst

postmenopausal women may justify the higher prevalence of symptoms experience among post-menopausal women. Eun-Ok (2009) also examined the association between menopausal status and number of symptoms experienced among Asian women and disclosed that there was no association between age and number of symptoms experienced among Asian women. Methodological variation might be responsible for the disparity that exists between the findings reported in this study and those of Eun-Ok (2009) as there was no face to face interaction due to internet selection of the Asian women surveyed.

### **Implications for Nursing Practice, Research and Policy making**

This section examines the implication of the findings that emanate from this study to nursing practice, research and policy making.

The findings that emanated from this study regarding deficit in role performance illuminates the need for these women to be assisted to overcome the challenges they are encountering in performing their numerous roles. Also, social functioning deficit among study participants presents a clear mandate to all health workers most especially nurses on the provision of menopausal relevant information to the society in order to sensitise husbands, children, family members and colleagues of study participants on the specific health needs of menopausal women.

Hence, it is pertinent that nurses who happen to be frontline health worker and potential source of scientific and reliable information about menopause endeavour to make available continuous health education at every given opportunity for middle aged women not only in the clinics but using other

available medium such as TV, radio, papers, magazines and seminars. This information will go a long way to equip middle aged women with the tips for managing stress and fatigue as well as measures to overcoming sexual problem. It will also intimate their husbands, children, families, friends and colleagues with necessary information needed to make life easier for middle aged women as they go through this life changes. Likewise, such information might also boost healthy social relationship based on understanding among middle aged women and their significant others (husbands, children, families, friends and colleagues).

This study is one of the first of its kind to examine menopause symptoms experience in relation to the domains of health of women in Nigeria. However, keen attention was only paid to the relationship between age (demographic attributes) as well as menopausal status (menopausal characteristics) and number of symptoms experiences. Hence, this study awaits a continuous study that will examine the relationship between other antecedent characteristics of study participants not tested in this study and the number of symptoms experienced as well as antecedent characteristics of study participants and their symptoms perception (severity and distress). In addition, there is a need to throw more lights on the role performance inabilities among menopausal women as well as to explore if sexual roles inabilities have any impact on middle age women's nature of performance of other roles. Hence, this study puts forward the aforementioned line of inquiry for future research.

Finally, the symptoms of physical and mental exhaustion, sexual problems as well as the areas of health deficits found in this study has far reaching

implication on work performance and productivity and in turn may determine what educational foundation is laid for the future of the coming generation. As middle aged women working in basic schools under the IBNLG area of Oyo State may not be able to function optimally.

Hence, policy makers may find the findings of this study useful in the formulation of policies on increase health expenditure of not only of Nigerian pregnant women but also of middle aged women. This will increase their accessibility to avenues where their health needs will be address and as such help them overcome role performance and social functioning inability challenges associated with menopause which may have adverse effects on their work performance and productivity.

### **Chapter Summary**

The findings that emanated from this study were presented in this chapter in line with the questions that guided this study. As well, this chapter discussed those findings that emanated from this study in relation to previously existing literature and illuminated the implication of those findings to nursing practice, research and policy making.

## **CHAPTER FIVE**

### **CONCLUSIONS AND RECOMMENDATIONS**

#### **Summary**

While numerous studies have focused on identifying the menopausal symptoms experiences that exist among women and its effect as well as factors associated with these symptoms experiences across the globe, to the best of the researcher's knowledge, none has examined the implication of menopausal symptoms on the health domain of women in Ibadan, Oyo state Nigeria.

This study investigated the implication of menopausal symptom on the health domain of women working in Ibadan North Local Government area of Oyo State Universal Basic Education Board. The aim of the study was to describe the menopausal symptoms of women working in schools under Ibadan North Local Government area of Oyo State Universal Basic Education Board as well as to investigate the impact of menopausal symptoms on women's health status. In an attempt to achieve this aim, this study sought answers to the following research questions:

1. What is the nature of menopausal symptoms experienced of women working in schools under Ibadan North Local Government area of Oyo State Universal Basic Education Board?
2. What is the pattern of menopausal symptoms experienced of women working in schools under Ibadan North Local Government area of Oyo State Universal Basic Education Board?
3. How do women working in schools under Ibadan North Local Government area of Oyo State Universal Basic Education Board perceive their health status?
4. Does the number of symptom experienced by women working in schools under Ibadan North Local Government area of Oyo State Universal Basic Education relate to their attributes?

Cross sectional descriptive survey design was utilised to describe and interpret the implication of menopausal symptoms on the health of women working in basic schools under the Oyo State Universal Basic Education

department of Ibadan north local government. This particular category of women was considered suitable for the study because the researcher believes that primary education sector beyond any other setting is dominated by obvious and available women who are between the ages of 40-60 years and who have experienced menopause within the context of their multiple role performance and will be willing to share their experience.

A self-administered questionnaire made up of 3 sections was proposed to obtain information from 325 eligible women working in 20 randomly selected schools within the four randomly selected zones in Ibadan North Local Government. However, only 300 middle aged women out of the 325 women working in 20 randomly selected basic schools consented to participate in the study. Also, at time of data collection, 15 of the questionnaire were not returned while an additional 17 out of the 285 returned was eliminated from the data analysis process due to incompleteness.

Noteworthy, findings from the study pertaining to attributes reveals an association between age as well as menopausal status and number of symptoms experience as higher number of the women below 50 years had no symptoms experience while no symptoms experience was reported a lower number of women above 50 years of age. Likewise, most of the post-menopausal women studied experienced symptoms experience while peri-menopausal women reported no symptoms experience.

Furthermore, source of previous knowledge about menopause among study participants differs. Majority indicated source of previous knowledge about menopause as mother, sister and family members, while very few reported health professional, friends or colleagues at work, TV, newspaper, books or online sources as sources of previous knowledge about menopause. Unfortunately, none of the study participants reported having attended a programme or seminar on menopause.

It was also evident that physical exhaustion, mental exhaustion and sexual problems were the most commonly occurring menopausal symptoms experienced by study participants. Similarly, physical exhaustion, mental exhaustion and sexual problems were severe for majority of the study participants. Extent of severity however differs. Sexual problem had the highest report of severity while physical and mental exhaustion were most commonly reported as moderately severe. Also, physical exhaustion and mental exhaustion had the highest report of distress followed by vaginal dryness while majority did not experience distress from their symptoms experienced.

In addition, of all the domains of health assessed, the role performance and the social functioning domain were the most affected as a sizeable number of the study participants did not fall within the good health status category in the social functioning and role performance domains of health.



## **Conclusions**

This study brings to limelight the fact that physical, mental exhaustion and sexual problems were the most common symptoms experienced among the middle age women studied. As well, it has also revealed that physical, mental exhaustion and sexual problems symptoms were the most severe and distressful symptoms experience for majority of the study participants. In addition, it also made it clear that menopause presents a health issue in the role performance and social functioning domain for some women. Likewise, it has revealed the sexual relationship aspect of role performance as a high spot alongside other aspects that includes care giving, domestic chores and career. Hence, it is important to note that deficit in the role performance domain of health could be a product of symptoms experience of physical exhaustion and sexual problems, the most common symptoms experience reported.

## **Recommendations**

Based on the findings that emanate from this study, this study recommends the following.

- There is the need for continuous health education on menopause by health workers and the mass media not only for middle-age women but also for other members of the society who would consequently be more emphatic toward their wives, mothers, sisters, aunts, friends and colleagues as they go through this life change.
- Health workers in health facilities should establish well women-clinics and social support networks anchored by medical personnel for women

over 40 years to meet regularly to discuss their health problems. In this way, they can share each other's experiences and obtained reliable remedy for the symptoms they are experiencing.

- Health workers should utilise available media to assist women in understanding that marital life could still be enjoyed after menopause and menopause should not be an end to marital relationship.
- Ibadan North Local Government area of Oyo State Universal Basic Education Board (SUBEB)'s authority should provide suitable medium for seminars and conferences that will sensitize middle age women working in schools under Ibadan North Local Government area of Oyo SUBEB and other women with similar characteristics on measures to overcome role performance inabilities associated with menopause and other relevant coping strategies.
- Health policy makers in the state should use the findings that emanated from this study as a platform to formulate policies that will increase the health expenditure related to symptoms such as physical and mental exhaustion as well as role performance deficit of middle aged women.
- Further research should be conducted on the association between other attributes of middle age women working in Ibadan North Local Government area of Oyo SUBEB and their symptoms experiences as well as their health status.

- Future researches should be conducted to throw more lights on role performance inabilities among middle age women working in Ibadan North Local Government area of Oyo SUBEB.
- Similarly, further investigations should also be conducted to ascertain if sexual roles inabilities among middle age women working in Ibadan North Local Government area of Oyo SUBEB has any impact on the performance of other roles.

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APPENDIX A

UNIVERSITY OF CAPE COAST

INSTITUTIONAL REVIEW BOARD SECRETARIAT

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C/O Directorate of Research, Innovation and Consultancy

E-MAIL: irb@ucc.edu.gh

OUR REF: UCC/IRB/3/47

YOUR REF:



3RD MARCH, 2016

Mrs. Adedolapo A. Fadehan  
School of Nursing and Midwifery  
University of Cape Coast

Dear Mrs. Fadehan,

**ETHICAL CLEARANCE –ID NO: (UCCIRB/CHAS/2015/39)**

The University of Cape Coast Institutional Review Board (UCCIRB) has granted **Provisional Approval** for implementation of your research protocol titled: **“Implication of Menopause on Women’s Health in Oyo State, Nigeria.”**

This approval requires that you submit periodic review of the protocol to the Board and a final full review to the UCCIRB on completion of the research. The UCCIRB may observe or cause to be observed procedures and records of the research during and after implementation.

Please note that any modification of the project must be submitted to the UCCIRB for review and approval before its implementation.

You are also required to report all serious adverse events related to this study to the UCCIRB within seven days verbally and fourteen days in writing.

Always quote the protocol identification number in all future correspondence with us in relation to this protocol

Yours faithfully,

*for: Samuel Asiedu Owusu*  
(Samuel Asiedu Owusu)  
ADMINISTRATOR

cc: The Chairman, UCCIRB

ADMINISTRATOR  
INSTITUTIONAL REVIEW BOARD  
UNIVERSITY OF CAPE COAST  
Date: 03-03-16

## APPENDIX B

School of Nursing and Midwifery,  
University of Cape Coast,  
Cape Coast,  
Ghana.

15th January 2016.

The Head of School Services,  
State Universal Basic Education Board,

Ibadan North Local Government,  
Oyo State.

HQS SCHOOL SERV  
DATE: 15/01/2016  
SIGN: [Signature]

Dear Sir/Ma,

### LETTER OF INTRODUCTION AND PERMISSION

I Adedolapo Adebukola Fadehan a final year master student of the above named school currently working on the thesis title "Implication of menopausal symptoms experience on women's health in Oyo state Nigeria" under the supervision of Dr. F.A Okanlawon and Dr Jerry Ninnoni use this medium to request for the permission to carry out the survey in selected schools in your local government.

The study of interest concerns women's menopausal symptoms experience and I am basically investigating the implication of these experiences on their health. Women represent the highest percentage of women in the Nigerian workforce, and this makes it important that health professionals have a detailed understanding of their health to be able to help them better.

I humbly ask that I be permitted to carry out this survey among eligible women working in the selected schools in your local government. The data will be collected over a 6 weeks period after which I will be happy to provide you with the results generated from the data analysis upon request.

This survey has been reviewed and ethically approved by the Institution's Review Board of the university of Cape Coast. Contact details: 0332133172 (+233) and 0244207814 (+233) or email address: [irb@ucc.edu.gh](mailto:irb@ucc.edu.gh)

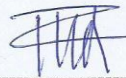
For further information contact:

The principal investigator: Adedolapo.A.Fadehan phone number +233 266244159 or +234 8033663225 or via email [dohleyp@yahoo.com](mailto:dohleyp@yahoo.com).

Survey supervisor: Dr. F. A Okanlawon phone number +233 542382877/ +234 8055071838 or via email [funmilayookanlawon@yahoo.com](mailto:funmilayookanlawon@yahoo.com)

Thank you.

Yours Sincerely,



-----  
Adedolapo Adebukola Fadehan

## APPENDIX C

LITERARY SERVICES  
IBADAN  
DATE - 10/11/2012  
SIGN -

### ZONES IN IBADAN NORTH LG U B E A

#### ABADINA ZONE

1. ABADINA SCH. I, U.I
2. ABADINA SCH. II, U.I
3. ABADINA SCH. III, U.I
4. IMMANUEL SCH I, U.I
5. IMMANUEL SCH II, U.I
6. METHODIST SCH I, BODIJA
7. METHODIST SCH II, BODIJA

#### OKE - ARE ZONE

1. ST. PETER'S SCH. I, OKE -ARE
2. ST. PETER'S SCH. II, OKE -ARE
3. ST. MARY'S CONVT. I, OKE -ARE
4. ST. MARY'S CONVT. II, OKE -ARE
5. ISLAMIC MISSION SCH. I, ODOYE
6. ISLAMIC MISSION SCH. II, ODOYE
7. ISLAMIC MISSION SCH. III, ODOYE
8. ISLAMIC MISSION SCH. IV, ODOYE

#### NALENDE ZONE

1. ST. STEPHEN'S SCH. I, NALENDE
2. ST. STEPHEN'S SCH. II, NALENDE
3. THE APOSTOLIC SCH., NALENDE
4. U.N.A MISSION SCH., NALENDE
5. UNITED BROTHER'S SCH. NALENDE
6. ST. JOHN'S RCM SCH., NALENDE
7. SALVATION ARMY SCH., NALENDE

#### IJOKODO ZONE

1. COMMUNITY SCHOOL I, IJOKODO
2. COMMUNITY SCHOOL II, IJOKODO
3. COMMUNITY SCHOOL III, IJOKODO
4. POLY STAFF SCHOOL I, IJOKODO
5. POLY STAFF SCHOOL II, IJOKODO
6. POLY STAFF SCHOOL III, IJOKODO

#### ONIYANRIN ZONE

1. C.A.C SCH. I, ONIYANRIN
2. C.A.C SCH. II, ONIYANRIN
3. C.A.C SPECIAL SCH., ONIYANRIN
4. I.M.G SCH I, ONIYANRIN
5. I.M.G SCH II, ONIYANRIN
6. EBENEZER ANG. SCH. ONIYANRIN

#### MOKOLA ZONE

1. ALAFIA FREE SCHOOL, MOKOLA
2. I.M.G. SCH. I, MOKOLA
3. I.M.G. SCH. II, MOKOLA
4. I.M.G. SCH. III, MOKOLA
5. ST. BRIGID'S CONVT. SCH. MOKOLA
6. ST. BRIGID'S BOY'S SCH. MOKOLA
7. C & S NEW EDEN SCH. I, MOKOLA
8. C & S NEW EDEN SCH. II, MOKOLA

#### SANGO ZONE

1. C.A.C SCHOOL I, SANGO
2. C.A.C SCHOOL II, SANGO
3. C.A.C SCHOOL III, SANGO
4. C.A.C SCHOOL IV, SANGO
5. OLUYOLE CHESHIRE HOME, IJOKODO
6. HOME SCH. FOR THE HANDICAPPED
7. IBADAN SCH. FOR THE DEAF, IJOKODO

## ZONES IN IBADAN NORTH LG U B E A

### BODIJA ZONE

1. C & S NEW EDEN SCH. I, BODIJA
2. C & S NEW EDEN SCH. II, BODIJA
3. OLIVE SCHOOL I, BODIJA
4. OLIVE SCHOOL II, BODIJA
5. ST. THOMAS RCM SCH. I, AGBOWO
6. ST. THOMAS RCM SCH. II, AGBOWO
7. ST. THOMAS RCM SCH. III, AGBOWO
8. COMMUNITY SCHOOL, IKOLABA

### KUBE ZONE

1. C.A.C SCHOOL, OJE - IGOSUN
2. I.M.G SCHOOL I, OJE - IGOSUN
3. I.M.G SCHOOL II, OJE - IGOSUN
4. METHODIST SCHOOL, AGODI N5
5. SALVATION ARMY SCHOOL I, KUBE
6. SALVATION ARMY SCHOOL II, KUBE
7. ST. JOHN'S RCM AGODI N5

### YEMETU ZONE

1. I.M.G ADEOYO N4 SCHOOL, YEMETU
2. ST. MICHAEL SCH. I, YEMETU
3. ST. MICHAEL SCH. II, YEMETU
4. ST. PAUL'S SCH. I, YEMETU
5. ST. PAUL'S SCH. II, YEMETU
6. ST. PAUL'S SCH. III, YEMETU
7. ST. PAUL'S SCH. IV, YEMETU
8. SALVATION ARMY SCHOOL I, YEMETU
9. SALVATION ARMY SCHOOL II, YEMETU
10. SALVATION ARMY SCHOOL III, YEMETU

## **APPENDIX D**

### **Information for study participants**

**Study title: A survey on menopause and women's health**

### **Brief information about the survey**

This survey is investigating into middle age women's health using the menopausal symptoms experiences of middle age women as a main tool to understand their physical, psychological and social health needs.

### **Procedure**

The survey requires the filling of a questionnaire which is divided into three sections, section A asks information pertaining to your demographic, health characteristics, menopausal status, source of menopausal knowledge and your views, section B asks about your symptoms experiences and resources turn to manage your symptom experience while section C asks you questions about your physical, cognitive, emotional, social health and role performance.

### **Invitation**

We would like you to take part in the study: implication of menopause on women's health. If you approve of it you will be required to fill out the questionnaire for the study.

### **Why are we doing this project?**

This survey is being carried out to understand your physical, psychological and social health needs; it will also help health professionals understand these specific health needs. However, findings that emanate from this survey will be written up by the principal investigator as a MN (MPhil) thesis and also published in academic papers for the benefit of other health professionals and academicians to help them better understand and render quality health care to women of similar characteristics.

**Why have I been chosen?**

You have been asked to take part in this study because you are a working woman between 45-55 years who also happens to be living with a man and women of these ages are believed to be undergoing menopausal transition.

**Do I have to take part?**

You are not under any compulsion to participate in this study or to complete the study if you so desire. However, the success of this study depends on participants' honest and complete information.

**What will happen to me if I take part?**

You will be requested to fill a questionnaire which will take you about 20 minutes upon your consent.

**Will my taking part be confidential?**

Yes. Your name will not be identified with any of the information you give as you will not be required to write your name. Also, all the information you give will be coded, entered into a database, stored on the researcher's computer and protected using a password to ensure confidentiality. In addition, the raw data will be secured in a locked filing cabinet once the data were entered.

**What will happen to the results of the research study?**

The results of this survey will be made available to you upon request and published in academic papers for the benefit of other health professionals and academicians to help them to understand better and to manage the health of women with similar characteristics.

**Who is organising and funding this survey?**

This is a self sponsored survey being supervised by the University of Cape Coast.

**Who has checked or reviewed this study?**

The survey has being reviewed by the Institution's Review Board of the university of Cape Coast. Contact details: 0332133172 (+233) and 0244207814 (+233) or email address: [irb@ucc.edu.gh](mailto:irb@ucc.edu.gh)

**For further information contact:**

The principal investigator: Adedolapo.A.Fadehan phone number +233266244159 or +234 8033663225 or via email [dohleyp@yahoo.com](mailto:dohleyp@yahoo.com).

Survey supervisor: Prof. Okanlawon phone number +233542382877 or via email [funmilayookanlawon@yahoo.com](mailto:funmilayookanlawon@yahoo.com)

**Thank you for agreeing to take part in the study.**



Title: A SURVEY ON MENOPAUSE AND WOMEN'S HEALTH  
PRINCIPAL INVESTIGATOR: ADEDOLAPO .A. FADEHAN

1. I confirm that I have read and understand the information sheet explaining the above research project and I have had the opportunity to ask questions about the project.
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without there being any negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline.
3. I understand that my responses will be kept confidential as stated in the information sheet. Hence, I give permission for members of the research team to have access to my anonymised responses. I understand that my name will not be linked with the research materials, and I will not be identified or identifiable in the report or reports that result from the research.
4. I agree for the data collected from me to be used in future research
5. I agree to take part in the above research project.

Name of Participant	Date	Signature
Principal investigator		

## APPENDIX E

### A QUESTIONNAIRE ON MENOPAUSE AND WOMEN'S HEALTH

#### SECTION A: ABOUT YOURSELF

1. Age a) 40-44 b) 45-49 c) 50-54 d) 55-60
2. Marital status a) married b) widowed c) divorced d) single but cohabiting
3. Type of marriage a) polygamy b) monogamy
4. Religion a) Christianity b) Islam c) Traditional
5. Number of children living with you a) none b) 1-2 c) 3-4 d) 5 and above
6. Please Tick [] if you ever experienced any of the following before menstrual period
  - Mood changes
  - Abdominal pain
  - Headaches
  - Body pains
  - Tender or uncomfortable breasts
  - Nausea
7. Please Tick [] if you have been diagnosed of any of the following medical condition
  - Hypertension
  - Bone and joint problem
  - Diabetes mellitus
  - Thyroid disease
  - Asthma
  - Cancer
  - Liver/Kidney disease
8. Do you perform exercise? a) Yes b) No
9. Please tick the most appropriate to you

- currently having regular menstrual cycle
- currently experiencing noticeable changes in length of cycle
- not menstruated in 3-11 months
- not menstruated for 12-24 months
- not menstruated for over 24 months

10. Have you heard about menopause before today? Yes/No

11. If yes, please tick how?

- mother, sister /family members
- friends /colleagues
- health professional
- TV/ newspapers/books/ online searches
- attended a programme or seminar

Any other please specify -----

12	The following statements reveal how other women view menopause. Please signify if you support their views		
A	Menopause is a disease condition		
B	Menopause is a natural event		
C	Menopause brings loss of youthfulness		
D	Menopause is a mark of respect		
E	Menopause is an end to sexual Relationship		

**SECTION B: YOUR EXPERIENCES**

	SYMPTOMS	EXPERIENCES		SEVERITY (How serious is it in the past 1 week?)					DISTRESS (To what extent does it affect you normal life?)				
		Yes	No	Not at all	Slightly	Moderately	Severely	Very severely	Not at all	Slightly	Moderately	Quite a bit	Very much
1	Hot flushes, profuse sweating episodes												
2	Sleep problems: difficulty falling asleep, difficulty in sleeping through, waking up early												
3	Heart discomfort: unusual awareness of heartbeat, heart skipping, heart racing, tightness												
4	Joint and muscular discomfort: body pain, pain in joints, rheumatoid complaints												
5	Anxiety: inner restlessness, feeling panicky , unease, fear, nervous												
6	Depressive mood: feeling sad, down, crying spell, lack of drive, mood swings												

	SYMPTOMS	EXPERIENCES		SEVERITY (How serious is it in the past 1 week?)					DISTRESS (To what extent has it bothered your life?)				
		Yes	No	Not at all	Slightly	Moderately	Severely	Very severely	Not at all	A little bit	Moderately	Much	Very much
<b>7</b>	Physical & mental exhaustion: general decrease in performance, impaired memory, decrease in concentration, forgetfulness												
<b>8</b>	Irritability: touchy, annoyed, impatient, feeling aggressive, bad tempered												
<b>9</b>	Dryness of vagina: sensation of dryness or burning in the vagina, difficulty in sexual intercourse												
<b>10</b>	Sexual problems: change in sexual desire, in sexual activity and satisfaction												
<b>11</b>	Bladder problems: difficulty in urinating, increased need to urinate, difficulty in ability to control/hold unto urine												

## SECTION C: ABOUT YOUR HEALTH

		Very good/very well	Much	Fair	Poor	Very poor
	<b>Physical health</b>					
<b>1</b>	How much control of your bodily pain and discomfort do you have?					
<b>2</b>	How would you describe your energy level					
<b>3</b>	How well do you sleep?					
<b>4</b>	How would you describe your ability to move around					
<b>5</b>	How would you describe your health without using drugs (analgesics, energy enhancer, multivitamins and other supplements)					
	<b>Cognitive function</b>					
<b>1</b>	To what extent are you able to think and remember things?					
<b>2</b>	To what extent are you able to concentrate on a task?					
<b>3</b>	To what extent are you able to learn new things?					
	<b>Emotional consequences</b>					
<b>1</b>	How much do you enjoy life?					
<b>2</b>	How satisfied are you with the way you look?					
<b>3</b>	How much confidence do you have in yourself?					
<b>4</b>	Do you experience negative mood?					

		Very good/ very well	Much	Fair	Poor	Very poor
5	Are you satisfied with your performance ability / energy level?					
	<b>Social functioning</b>					
1	How would you describe your personal relationship with your immediate family(husband and children)					
2	How would you describe your personal relationship with your relatives and other family					
3	How would you describe your personal relationship with friends and colleagues					
4	How would you describe your personal relationship at your work place					
5	To what extent can you count on your friends when you need them					
6	How would you rate the support you get from your immediate family (husband and children)					
7	How would you rate the support you get from your relatives and other family member					
8	How satisfied are you with the support you get from your work place					

	<b>Role performance</b>	<b>Very good/very well</b>	<b>Much</b>	<b>Fair</b>	<b>Poor</b>	<b>Very poor</b>
<b>1</b>	How would you describe your ability to perform your daily home activities					
<b>2</b>	How would you describe your ability to function at work					
<b>3</b>	How would you describe your ability to attend social functions					
<b>4</b>	How would you describe your sexual functioning ability (sexual intercourse)					





