

**INVESTIGATING THE KNOWLEDGE AND PERCEPTION OF
PREGNANT WOMEN IN IKPHOBA-OKHA LGA TOWARDS THE
BENEFITS OF EXERCISE IN PREGNANCY**

BY

**OVBIAGBONHIA ODION MARVELLOUS
EDU1703541**

**A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF
HUMAN KINETICS AND SPORTS SCIENCE, FACULTY OF
EDUCATION, UNIVERSITY OF BENIN, BENIN CITY IN PARTIAL
FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF
BACHELOR OF SCIENCE (EDUCATION) DEGREE IN HUMAN
KINETICS AND SPORTS SCIENCE.**

JANUARY, 2023

CERTIFICATION

We the undersigned certify that this project work was carried out by **OVBIAGBONHIA Odion Marvellous** with matriculation number **EDU1703541** in the Department of Human Kinetics and Sports Science, Faculty of Education, University of Benin, Benin City in partial fulfilment for the award of B.Sc. (Ed) Degree in Human Kinetics.

DR RAPHAEL F. ANI
PROJECT SUPERVISOR

DATE

DR. U. ORIAKHI
PROJECT COORDINATOR

DATE

PROF. E. O. S. IYAMU
DEAN, FACULTY OF EDUCATION

DATE

DEDICATION

This project is dedicated to Almighty God, my creator, my maker, the supreme and the only wise God for his provision that is beyond human comprehension during the course of my study.

ACKNOWLEDGEMENTS

First and most importantly, my profound appreciation goes to my Father God Almighty for treating me like his only child and for seeing me through my study and the entirety of this project. Thank you my Father.

Special appreciation goes to my lovely mother, Mrs Omosede Mabel Ovbiagbonhia for her immense support, love and contributions to my academics.

I also express gratitude to my ever competent and excellent supervisor, Dr Raphael F. Ani for his undeniable and immense contributions, constructive corrections, suggestions and recommendations and support. To my Lecturers of the Department of Human Kinetics and Sports Science, Profs. E.O Ojeme, S.O. Aibueku, S.M Adodo, Dr. Lator C., Prof (Mrs) A. Efe-Aigbowo, S. Ogbouma, Mr. Aluya Christopher, Miss Celina Abayomi, and of course, my able Head of Department, Dr. Gabriel E. Arianru, I thank you all for the knowledge and discipline you have impacted in me.

I also wish to acknowledge my siblings, Osazuwa Elvis Ovbiagbonhia, Orobosa Endurance Ovbiagbonhia and Ovbokhan Victory Ovbiagbonhia, and also to my special people, Olusakin Kehinde Samuel, Ejuvwevwo Elvis Oghenekume, Ikede Eghonghon Happiness, Amaechina Ngozi Rita and Osarenmwinda Ovenshehi Kelvin. Finally, I wish to appreciate my friends and colleagues who have been a support and encouragement to me throughout my academic program. I appreciate you all.

TABLE OF CONTENTS

ITEMS	PAGE
TITLE	i
CERTIFICATION	ii
DEDICATION	iii
ACKNOWLEDGEMENTS	iv
TABLE OF CONTENTS	v
ABSTRACT	vii
CHAPTER ONE: INTRODUCTION	
Background to the Study	1
Statement of the Problem	4
Research Questions	4
Research Hypothesis	5
Purpose of Study	5
Significance of the Study	5
Scope and Delimitation of the Study	6
Limitation	6
Definition of Terms	6
CHAPTER TWO: REVIEW OF RELATED LITERATURE	
Exercise	8
Exercises for pregnant mothers	10
Types of exercise for pregnant mothers	11
Benefits of exercise for pregnant mothers	14
Barriers to exercise among pregnant mothers	16
Measures to promote exercise among pregnant mothers	17

CHAPTER THREE: METHODOLOGY	PAGE
Research Design	19
Population of the Study	19
Sample and Sampling Technique	21
Research Instrument	22
Validity of the Instrument	22
Reliability of the Instrument	23
Method of Data Collection	23
Method of Data Analysis	23
CHAPTER FOUR: PRESENTATION OF RESULTS AND DISCUSSION OF FINDINGS	
Presentation of Results	24
Discussion of Findings	33
CHAPTER FIVE: SUMMARY, FINDINGS, CONCLUSION AND RECOMMENDATIONS	
Summary	37
Conclusion	38
Recommendations	39
References	40
Appendix	45

ABSTRACT

This study was carried out to investigate the knowledge and perception of pregnant women in Ikphoba-Okha LGA towards the benefits of exercise in pregnancy. A total of two hundred (200) respondents who are pregnant women were selected for this study.

A descriptive survey research design was used. Instrument used for data collection was a questionnaire which was developed by the researcher. It was validated by two (2) experts in the field of Human Kinetics and Sports Science. The simple count, frequency percentage was used to analyse the demographic information of students. Mean and standard deviation was used to analyse the response of the respondents to the research questions raised.

Findings of this study was able to basically discover that the respondents are adequately aware of the benefits of exercise during pregnancy and they have great and positive perception towards the benefits of exercise during pregnancy. The respondents were also discovered to participate so well in exercise during pregnancy although few of them signified that they don't regularly get involved in exercise during pregnancy. Some factors were identified to influence how pregnant women in the study get involved in exercise and these factors include lack of motivation, level of maternal health education, lack of time and how available the facilities for exercise are. Hence, it is important to declare that these factors must be specifically assessed and addressed in the study to ensure and encourage the involvement of pregnant women in regular exercise.

CHAPTER ONE

INTRODUCTION

Background of the study

Exercise is described as any bodily activity that maintains physical fitness of the human body and overall health and wellness (Kylasov and Gavrov 2011).

An online post by Mayo clinic (2018), posited that exercise is performed for different reasons and purposes which includes to aid growth and improve strength, prevent aging, develop muscles and the cardiovascular system, hone athletic skills, weight loss or maintenance, improve health or simply for enjoyment.

As discussed by Deslandes, Moraes, Ferreira and Veiga (2009) alongside Bergstrom, Muse, Tsai and Strangio (2011), many individuals choose to exercise outdoors where they can congregate in groups, socialize, and improve well-being as well as mental health.

Exercise as deliberated over by National Health Service (2018), in terms of health benefits, the amount of recommended exercise depends upon the goal, the type of exercise, and the age of the person. Even doing a small amount of exercise is healthier than doing none.

Exercise is important for maintaining physical fitness and can contribute to maintaining a healthy weight, regulating the digestive system, building and maintaining healthy bone density, muscle strength, and joint mobility, promoting physiological well-being, reducing surgical risks, and strengthening the immune system (The Sustainabilitist, 2021).

As stated by Gremeaux, Gayda, Lepers, Sosner and Nigam (2021), some studies indicated how exercise may increase life expectancy and the overall quality of life.

In 1996, The United State Department of Health And Human Services posited that people who participate in moderate to high levels of physical exercise have a lower mortality rate compared to individuals who by comparison are not physically active.

Stoll, Hansen, Shankaran and Walsh (2010) described pregnancy as the term used to describe the period in which a fetus develops inside a woman's womb or uterus. Pregnancy usually lasts about 40 weeks, or just over 9 months, as measured from the last menstrual period to delivery. A pregnancy is divided into trimesters: the first trimester is from week 1 to the end of week 12. The second trimester is from week 13 to the end of week 26. The third trimester is from week 27 to the end of the pregnancy.

Da Silva, Ricardo, Evenson and Hallal (2016) discussed how several studies have reported the benefits of exercise during pregnancy, which include reduced risk of excessive gestational weight gain decreased risk of gestational diabetes and reduced risk of preeclampsia.

Vamos, Flory, Sun, DeBate, Bleck and Thompson (2015) discovered how evidence indicated that exercise during pregnancy lowers rates of preterm births, improves sleep, reduces the risk of caesarean section and postpartum recovery time, and reduces length of labour and delivery complications.

In addition, Thompson, Vamos and Daley (2017) explained that exercise during pregnancy reduces fatigue, stress, anxiety and depression, reduced lower back pain, and improves wellbeing.

More so, Nascimento, Surita and Cecatti (2012) explained that exercise is known to increase heart rate, cardiac output, ventilation and energy expenditure, reduce the risk of injury for both mother and baby, and improves breastfeeding outcomes.

Linne and Neovius (2006) explained that earlier studies have alluded to the benefits of physical activity for the improvement of maternal health of the mother and the baby.

Sebire, Jolly and Harris (2001) explained that specifically, studies have reported that lack of exercise have been associated with increased risk of fetal death, congenital malformations such as neural tube defects, macrosomia, and large-for-gestational-age.

According to American college of sports medicine (2020), exercises available to pregnant women include walking, swimming, stationary cycling, low-impact aerobics and running/jogging.

Vasudevan, Renfrew and McGuire (2011), children of obese mothers (due to lack of exercise) have increased perinatal complications, which include shoulder dystocia, birth injuries, perinatal asphyxia, and hypoglycemia or respiratory distress

In addition, Siega, Viswanathan, Moos, Deier, Mumford and Knaack (2009) discussed previous studies have shown that antenatal exercises improves the aerobic fitness of pregnant women, and significantly lowers postpartum weight retention. However, Zhang (2104) explained that the participation of pregnant women in adequate and regulated exercise is influence by various factors which include their knowledge and perception, low maternal education, unemployment, pregnancy symptoms/discomforts, multiparity, lack of strength or fatigue, lack of time, lack of motivation, and safety concerns or fear.

Chasan (2012) discovered that some studies have reported cultural and religious beliefs, lack of social support and other responsibilities. The knowledge and perception of pregnant women is a major determinant of their active participation in exercise.

Statement of the problem

Although the benefits of exercise during pregnancy are being explained and analyzed to pregnant women during antenatal care sessions, some of them still find it difficult to actively participate in exercise which could help prevent so many maternal complications. These poor participation in exercise could be linked to some factors among which their knowledge and perception appear to be the major ones. It is really important to assess the knowledge and perception of pregnant women in Ikphoba-Ohka Local Government Area towards the benefits of exercise during pregnancy in order to determine how their active participation in exercise could be effectively promoted.

Research Questions

On the basis of assessing the knowledge and perception of pregnant women in Ikphoba-Okha LGA towards the benefits of exercise in pregnancy, this research work is guided by the following research questions;

1. What do pregnant mothers in Ikphoba-Okha know about the significance of exercise during pregnancy?
2. What do pregnant mothers in Ikphoba-Okha know about the negative effects of not exercising during pregnancy?
3. What are the benefits of exercise during pregnancy?
4. What factors affect the participation of pregnant women in exercise during pregnancy?

Hypotheses

Hypotheses 1:

There is no significant relationship between the knowledge of pregnant women in Ikphoba-Okha Local Government about the benefits of exercise during pregnancy and their participation in exercise

Hypotheses 2

There is no significant relationship between the perception of pregnant women in Ikphoba-Okha Local Government about the negative effects of not exercising during pregnancy in and their participation in exercise.

Purpose of the study

This study is carried out to assess the knowledge and perception of pregnant women in Ikphoba-Okha LGA towards the benefits of exercise in pregnancy.

Significance of the study

This study will be of great benefit to the general public as it would help them gain more insight into the importance of exercise among pregnant women. This research work would also be beneficial to the general public as it would serve as a health education and sensitization means for the people towards changing their opinions towards the factors influencing the perception of the benefits of exercise among pregnant women.

The findings of this study will be beneficial to health organizations, ministries as well as other health personnel, as it will discover and outline factors influencing the knowledge and perception of pregnant women towards benefit of exercise during pregnancy and how their knowledge and

perception could be positively influenced. This research work will be of great importance to other researchers who will embark on similar or related research topic.

Scope and Delimitation of the Study

This research work is directed towards Ikphoba-Okha, but with specific focus on pregnant women in the Ikphoba-Okha LGA. This study focuses on investigating the knowledge and perception of pregnant women towards the benefits of exercise in pregnancy in Ikphoba-Okha LGA.

Limitation of the Study

In the different phases of this research work, limitations includes gaining access and voluntary participation of pregnant women in the study area.

Definition of Terms

Exercise: is any bodily activity that enhances or maintains physical fitness and overall health and wellness

Gestation: the process or period of developing inside the womb between conception and birth.

Health maintenance: a guiding principle in health care that emphasizes health promotion and disease prevention rather than the management of symptoms and illness.

Maternal complications: are health problems that occur during pregnancy. They can involve the mother's health, the baby's health, or both.

Maternal health: refers to the health of women during pregnancy, childbirth and the postnatal period.

Maternal knowledge: describes how and what pregnant women know about their health issues and how to take appropriate steps towards enhancing their health status.

Obesity: abnormal or excessive fat accumulation that presents a risk to health.

Perinatal: encompasses the time frame from one year before to 18 to 24 months after the birth of the child.

Physical Activity: refers to all movement including during leisure time, for transport to get to and from places, or as part of a person's work.

Physical fitness: refers to the ability of your body systems to work together efficiently to allow you to be healthy and perform activities of daily living.

Postpartum: refers to the period just after delivery.

Pregnancy: the period in which a fetus develops inside a woman's womb or uterus.

CHAPTER TWO

LITERATURE REVIEW

THEORETICAL FRAMEWORK

EXERCISE

Exercise is any bodily activity that enhances or maintains physical fitness and overall health and wellness (Kylasov and Gavrov, 2011). It is performed for various reasons, to aid growth and improve strength, preventing aging, developing muscles and the cardiovascular system, honing athletic skills, weight loss or maintenance, improving health and also for enjoyment. Many individuals choose to exercise outdoors where they can congregate in groups, socialize, and enhance well-being (Mayo Clinic, 2018; Bergstrom, 2016).

In terms of health benefits, the amount of recommended exercise depends upon the goal, the type of exercise, and the age of the person. Even doing a small amount of exercise is healthier than doing none (United State Department of Health And Human Services, 2018). Physical exercise is important for maintaining physical fitness and can contribute to maintaining a healthy weight, regulating the digestive system, building and maintaining healthy bone density, muscle strength, and joint mobility, promoting physiological well-being, reducing surgical risks, and strengthening the immune system. Some studies indicate that exercise may increase life expectancy and the overall quality of life (Gremeaux, 2016). People who participate in moderate to high levels of physical exercise have a lower mortality rate compared to individuals who by comparison are not physically active (United State Department of Health And Human Services, 2006).

Physical exercise can also include training that focuses on accuracy, agility, power, and speed (Crossfit, 2010).

Physical exercises are generally grouped into three types, depending on the overall effect they have on the human body:

- **Aerobic exercise:**

This is any physical activity that uses large muscle groups and causes the body to use more oxygen than it would while resting (United State Department of Health And Human Services, 2018). The goal of aerobic exercise is to increase cardiovascular endurance (Wilmore and Knuttgen, 2003). Examples of aerobic exercise include running, cycling, swimming, brisk walking, skipping rope, rowing, hiking, dancing, playing tennis, continuous training, and long distance running.

- **Anaerobic exercise:**

This includes strength and resistance training that can firm, strengthen, and increase muscle mass, as well as improve bone density, balance, and coordination. Examples of strength exercises are push-ups, pull-ups, lunges, squats, bench press. Anaerobic exercise also includes weight training, functional training, eccentric training, interval training, sprinting, and high-intensity interval training which increase short-term muscle strength (De Vos, Singh, Ross and Stavrinou, 2005).

- **Flexibility exercises:**

This stretches and lengthens muscles. Activities such as stretching help to improve joint flexibility and keep muscles limber. The goal is to improve the range of motion which can reduce the chance of injury (O'Connor, Crowe, and Spinks, 2005). Types of exercise can also be classified as dynamic or static. 'Dynamic' exercises such as steady running, tend to produce a

lowering of the diastolic blood pressure during exercise, due to the improved blood flow. Conversely, static exercise (such as weight-lifting) can cause the systolic pressure to rise significantly, albeit transiently, during the performance of the exercise (de Souza, 2010).

EXERCISES FOR PREGNANT MOTHERS

Heggard (2008), states that pregnant women who practiced more than one type of sports or leisure time physical activity had 24% of reduced risk of preterm delivery, which compared with women with no sports activity. Exercising the abdominal muscles antenatally will ensure a speed to normal postnatally, effective pushing in labour, and the lessening of back ache in pregnancy (Mac-Phail, James, John, Thomas, and Fredrick, 2000).

Exercise during pregnancy are of utmost concern for most medical care givers, educators, the general public as well as pregnant mothers and their family (Adegbesan, 2005). Regular and moderate exercise in early pregnancies is healthy for the mothers and their babies. Mother's health physiotherapist is the ideal choice to teach the physical skills required or parenthood (Margaret, Ferreira, Jones and Fournier, 2013). However, in areas where there is no physiotherapist available, midwives may find themselves responsible for physical preparation as well as parent education in antenatal classes or as one-to-one basis.

For pregnant women who have a medical problem, such as asthma, heart disease, or diabetes, exercise may not be advisable. Exercise may also be harmful if mothers have a pregnancy-related condition such as:

- Bleeding or spotting
- Low placenta
- Threatened or recurrent miscarriage

- Previous premature births or history of early labor
- Weak cervix

It is also important for pregnant mothers to visit their doctor before beginning an exercise program. Doctors give personal exercise guidelines, based on patient medical history.

Evenson and Wen, (2006) discussed that there are certain exercises and activities that can be harmful if performed during pregnancy. They include:

- Holding breath during any activity.
- Activities where falling is likely (such as skiing and horseback riding).
- Contact sports such as softball, football, basketball, and volleyball.
- Any exercise that may cause even mild abdominal trauma such as activities that include jarring motions or rapid changes in direction.
- Activities that require extensive jumping, hopping, skipping, bouncing, or running.
- Deep knee bends, full sit-ups, double leg raises, and straight-leg toe touches.
- Bouncing while stretching.
- Waist-twisting movements while standing.
- Heavy exercise spurts followed by long periods of no activity.
- Exercise in hot, humid weather.

TYPES OF EXERCISE FOR PREGNANT MOTHERS

According to webmd (2015), for total fitness, a pregnancy exercise program should strengthen and condition the muscles. There is need to always begin by warming up for 5 minutes and stretching for 5 minutes and include at least 15 minutes of cardiovascular activity.

It is also pertinent to measure the heart rate at times of peak activity. Then the pregnant mother can follow aerobic activity with 5 to 10 minutes of gradually slower exercise that ends with gentle stretching.

Here are some basic exercise guidelines for pregnant women:

- It's good to put on loose fitting, comfortable clothes.
- Shoes that are designed for the type of exercise should be chosen. Proper shoes are best for protection against injury.
- Exercise should be carried out on a flat, level surface to prevent injury.
- Consuming enough calories to meet the needs of pregnancy is beneficial (300 more calories per day than before pregnancy) as well as the exercise program.
- Eating at least 1 hour before exercising is also important.
- It is necessary to drink water before, during, and after workout.
- After doing floor exercises, pregnant women are advised to get up slowly and gradually to prevent dizziness.
- It's not a good idea to exercise to the point of exhaustion. If pregnant mothers cannot talk normally while exercising, then they are probably over-exerting themselves and should slow down their activity.

Types of exercise for pregnant mothers include the following;

1. Stretching Exercises for Pregnancy:

Stretching exercises make the muscles limber and warm, which can be especially helpful when you're pregnant (Evenson and Wen, 2006). Here are some simple stretches to do before or after exercise:

- **Neck rotation:** Neck and shoulders muscle should be relaxed, head should be dropped forward and the head should be slowly rotated to the right shoulder, back to the middle, and over the left shoulder.
- **Shoulder rotation:** Shoulders are meant to be brought forward and rotated up toward the ears and back down.
- **Swim:** arms should be placed at sides, right arm are brought up and extend the body extended forward and twisted to the side, as if swimming the crawl stroke then followed with the left arm.
- **Thigh shift:** The pregnant woman can stand with one foot about 2 feet in front of the other, toes pointed in the same direction and lean forward, supporting the weight on the forward thigh, then change sides and repeat.
- **Leg shake:** Pregnant woman can sit with the legs and feet extended, then move the legs up and down in a gentle shaking motion.
- **Ankle rotation.** The pregnant mother can sit with the legs extended and keep the toes relaxed, rotate the feet, making large circles, then use the whole foot and ankle.

2. Kegel Exercises during Pregnancy:

Kegel exercises help strengthen the muscles that support the bladder, uterus, and bowels. By strengthening these muscles during pregnancy, pregnant women can develop the ability to relax and control the muscles in preparation for labor and birth. Kegel exercises are also highly recommended during the postpartum period to promote the healing of perineal tissues, increase the strength of the pelvic floor muscles, help these muscles return to a healthy state, and increase urinary control (Lewis, Laursen, Kristiansen, Marott and Eva, 2008).

3. Tailor Exercises for Pregnancy:

Tailor exercises strengthen the pelvic, hip, and thigh muscles and can help relieve low back pain.

This includes the following;

- ***Tailor sit:*** the pregnant woman can sit on the floor with the knees bent and ankles crossed, lean slightly forward, and keep the back straight but relaxed. She can also use this position whenever possible throughout the day.

- ***Tailor press:*** The pregnant woman can sit on the floor with the knees bent and the bottoms of the feet together, grasp the ankles and pull the feet gently toward the body, place the hands under the knees. It is necessary to inhale (Streuling, Lakka and Laaksonen, 2010).

BENEFITS OF EXERCISE FOR PREGNANT MOTHERS

During pregnancy, physical exertion creates a natural challenge to the maternal capacity to meet the fetal needs by increased oxygen, greater substrate utilization, heat generation, and excess by-product production. Despite the perceived challenges of exercise on fetal substrate delivery, studies have shown exercise to be safe for the developing foetus

The benefits of exercise during pregnancy include the following;

1. Prevention of Pre-eclampsia:

Hypertensive disorders of pregnancy, including gestational hypertension (new onset hypertension during pregnancy after 20 weeks of gestation) and pre-eclampsia (gestational hypertension with proteinuria) are amongst the leading causes of maternal mortality worldwide.

Pre-eclampsia is associated with increased risk of preterm birth, neonatal intensive care unit admissions and fetal death. Given that the only effective treatment is delivery, a simple

intervention like exercise training for women at risk could have a substantial impact as a prophylactic and adjunctive treatment (Kramer and McDonald, 2006).

2. Prevention of Gestational diabetes mellitus (GDM):

GDM is glucose intolerance or hyperglycaemia with onset or first diagnosis during pregnancy. It affects 1–4% of pregnancies, depending partly on the variable definitions worldwide, and is associated with short- and long-term risks for mother and baby. Women with GDM have higher rates of labour induction, caesarean section, and pre-eclampsia. Recent observational studies have found physical activity during pregnancy reduces insulin resistance and so might help lower risk of GDM. Mild walking programs, compared with standard care, achieved lower glucose concentrations and required fewer units of insulin per day. Evidence from a recent meta-analysis showed that women who exercised before and during pregnancy reduced their risk of GDM by 55% and 24% respectively (Sternfeld, 2007).

According to Lloyd-Jones., Gordon, and Scott (2011), other benefits include;

- increasing the heart rate steadily and improving circulation
- reducing the risk of obesity and related complications, such as gestational diabetes and hypertension
- helping prevent constipation, varicose veins, backache, and other pregnancy complications
- keeping the body flexible and strong
- supporting and controlling healthy weight gain
- preparing the muscles for labor and birth
- helping prevent deep vein thrombosis
- improving sleep and emotional health

Exercise for pregnant mothers may also:

- reduce the risk of a preterm or cesarean delivery
- speed up recovery after delivery
- give the infant a healthier start

Benefits for the baby includes:

- a lower fetal heart rate
- a healthier birth weight
- a lower fat mass
- improved stress tolerance
- enhanced nervous system development

BARRIERS TO EXERCISE AMONG PREGNANT MOTHERS

Lloyd-Jones et al. (2011) observed that there are some particular barriers that affects exercise among pregnant mothers mostly because of lack of knowledge about prenatal activities, lack of facilities at community level and lack of time. The barriers are discussed below;

1. Beliefs and negative perception:

Some culture, traditions and ethnics do opine that exercise during pregnancy is something dangerous to embark on as it negatively affects the foetus and also leads to some delivery complications, birth defects and irreparable damage to the physiology of the baby.

2. Ignorance:

Most of the people are not adequately aware of the relevance and importance of exercise to both pregnant mothers and their babies. Most have got little or false information about it from their

friends, seminars and other means. It is important that pregnant mothers are adequately informed about the concept of the relevance of exercise to pregnant mothers.

3. Employment status:

Employment status is one of the most challenging factors to exercise practice among pregnant mothers. Owing to work-time and workload, most pregnant mothers have no chance to practice exercise as the only time they have is that to rest when they return from work.

4. Age:

The age of the pregnant mother also determines if she would want to voluntarily participate in exercise. In Africa, exercise is only common among young mothers owing to the fact that most people believes that is the energetic stage, and once out of such age group, exercise is considered a stress.

5. Economic status:

In most developing countries including Nigeria where survival is the first thing to think about, thoughts about other things including exercise won't really come through the mind. More so, most pregnant mothers are not financially buoyant to afford the fees to be paid to gain access to exercise facilities or get for themselves at home.

MEASURES TO PROMOTE EXERCISE AMONG PREGNANT MOTHERS

According to Lloyd-Jones et al, (2011), the following are the strategies that could help promote exercise among pregnant mothers;

1. Health education:

The best approach towards influencing pregnant mothers knowledge and perception towards exercise during pregnancy is to health educate them. When adequately informed about how

beneficial the exercise is to them, they would voluntarily and consciously engage themselves in such practice.

2. Subsidized provision of facilities and facilities fee:

Owning exercise equipment may not be possible for all pregnant mothers, but gaining access to a facility would be possible. Both the sales of the equipment and fee to gain access to the facilities should be subsidized to enable pregnant mothers of any socio-economic level.

3. Mid-week work-free days:

There should be mid-week work-free days for pregnant mothers at both private and government establishments apart from the grants of maternity leave. This would create time for them, enhance and promote their active participation in such exercises that is beneficial to both their health and that of their baby during pregnancy.

4. Health care schedule:

Private, government hospitals and health care centers should engage all their registered pregnant mothers in health care schedules. All pregnant mothers would have a fixed date made compulsory for them to visit the health centre for check-up, advice and updates as regards their health and that of the integration of exercise in their pregnancy-term lifestyle.

CHAPTER THREE

RESEARCH METHOD

This chapter explores the research methods and procedures that was employed in this research. The research design, study area, sampling and sampling technique, instrumentation, reliability and validation of instrument, data gathering and analysis techniques were all reviewed.

Research design

The descriptive survey research design was adopted in this study in form of a survey. This is due to the fact that this research design entails gathering and analyzing data from a small number of people on items that are considered representative of the full group.

Description of the study area

Ikpoba Okha Local Government Area is in Edo State, Nigeria. Its headquarters are in the town of Idogbo, along Benin/Abraka Road. The postal code of the area is 300. The LGA is made up of several towns and villages such as Evbuomodu, Uwusan, Obazagbon, Agedo, Evbumufi, Ekosa, Obadoloviyeyi, and Obenevbugo. The estimated population of Ikpoba Okha is 301,447 inhabitants (Federal Bureau of Statistics, 2021) with the majority of the area's dwellers being members of the Bini ethnic division. Ikpoba Okha LGA covers a total area of 862 square kilometres and has an average temperature of 28 °C. The average humidity level of the area is put at 69 percent while the average wind speed in the LGA is 11 km/h (manpower blog, 2022). Farming is a prominent feature of the economic life of Ikpoba Okha with crops such as yam, plantain, banana, and vegetables grown in the area. Trade also flourishes in Ikpoba Okha LGA with the area hosting several markets such as the Oka and the Oregbeni markets which provide

platforms for the exchange of a variety of goods and services for the area's inhabitants. Other important economic activities in Ikpoba Okha include hunting, lumbering, and blacksmithing.



Fig 1: Map of Edo State showing Ikpoba Okha Local Government Area in Edo south senatorial district.

Sample and sampling technique

A number of sampling techniques were employed for this study. A purposive random sampling technique was used to select 5 private and 5 government owned hospitals in Ikphoba-Okha LGA making up a total of 10 hospitals. A stratified random sampling method was used to select pregnant women from the selected hospitals. This was done by putting the hospitals on stratum, 20 pregnant women were selected. Accidental and availability sampling methods was used to select these 20 pregnant women each from the selected hospitals. This made up a total of 200 respondents.

The hospitals that were purposively and randomly selected are represented in the table below

S/N	Selected hospitals	Hospital type	No. of respondents
1.	Utesi primary health care centre	Government	20
2.	Ugbekun primary health care centre	Government	20
3.	Obagienevbuosa primary health care centre	Government	20
4.	Ukhiri primary health care centre	Government	20
5.	Ogheghe primary health care centre	Government	20
6.	Tona hospital	Private	20
7.	Royal crown clinic	Private	20
8.	Omawumi specialist clinic	Private	20
9.	Ark of safety medical centre	Private	20
10.	St. Joseph chosen clinic	Private	20
Total			200

Instrument for data collection

A structured questionnaire was used as the research instrument and it consisted of series of questions and other prompts for the purpose of gathering information from respondents and designed for statistical analysis of the responses. The questionnaire consisted of closed ended questions. The questionnaire is a major tool for the data collection for this study and it consisted of two sections; section A which is meant to provide Bio-data about the respondents and section B which contained structured questions aimed at fulfilling the objectives of this study. A 4-point likert scale was used for the section B. This required the respondents to specify their level of agreement to various questions in the questionnaire for the purpose of gathering data.

Method of data collection

An official letter of identification was issued by the project supervisor to the researcher and this was presented to the management of the selected hospitals in Ikphoba-Okha LGA. After achieving this, a total number of 200 questionnaires were distributed directly by the researcher to the selected respondents. The researcher visited the selected hospitals from time to time until the questionnaires were administered to 20 pregnant women each in the selected hospitals in Ikphoba-Okha LGA.

Validation of research instrument

The questionnaire was subjected to content assessment and validation by the researcher's supervisor. All necessary corrections as well as important contributions were made by the supervisor. All corrections and contributions was acknowledged by the researcher before a final draft was made.

Reliability of the instrument

The research instrument was subjected to reliability assessment in a bid to reveal its accuracy and prove that it is capable of providing a consistent measure of what it is meant to measure. A test-retest reliability type was used to assess and determine the degree and extent at which the results are consistent over time with a specific correlation coefficient. This was achieved by administering same structured questionnaire to 10 pregnant women each in five (5) other selected hospitals within Ikphoba-okha LGA. This was carried out with the help of a research assistant.

Method of Data Analysis

The demographic data collected through the administration of questionnaires were analyzed using descriptive statistics which enabled the researcher to meaningfully describe independent factors in the study, as well as helping to indicate the number and percentage of respondent rate and rank variables under the study. The inferential statistics, Student T-test, was used to test the hypotheses formulated for this study at a significance level 0.05. This helped to find out the relationship between the independent and the dependent variables.

CHAPTER FOUR

PRESENTATION OF RESULTS AND DISCUSSION OF FINDINGS

The chapter looked at the presentation, analysis and interpretation of data collection. Data collected were tabulated, using descriptive analysis (frequency and percentage). A total number of Two hundred (200) questionnaires were administered and retrieved. The returned questionnaire was processed by making use of frequency and percentages.

Data Analysis from the Respondents (Section A: Bio - Data)

Table 1: Demographic Characteristics of the respondents

Age group	Frequency	Percentage
22 – 27 years	71	35.5%
28 -33 years	102	51%
34 – 39 years	25	12.5%
40 – 45 years	2	1%
46 years and above	0	0%
Total	200	100%
Religion	Frequency	Percentage %
Christian	183	91.5%
Islam	17	8.5%
Others	0	0%
Total	200	100%
Tribe	Frequency	Percentage %
Yoruba	26	13%
Igbo	12	6%
Hausa	0	0%
Bini	125	62.5%
Others	37	18.5%
Total	200	100%

Educational qualification	Frequency	Percentage %
Primary	33	16.5%
Secondary	146	73%
Tertiary	21	10.5%
Total	200	100%
Occupation	Frequency	Percentage (%)
Farmer	6	3%
Business Owner	116	58%
Civil servant	11	5.5%
Others	67	33.5%
Total	200	100%

Source: Field Survey, (2022).

The table above illustrated the results from findings of the demographic characteristics of the respondents. It was revealed that 71 (35.5%) of the respondents belonged to the age group of 22 - 27 years, 102 (51%) belonged to age group 28 -33 years, 25 (12.5%) belonged to age group of 34 – 39 years, while 2 (1%) of the respondents belonged to age group of 40 – 45 years. The table also showed that 183 (91.5%) of the respondents are Christians while 17 (8.5%) practice Islam. The tribe of the respondents was also shown in the table given that 26 (13%) of the respondents belong to the Yoruba tribe, 12 (6%) belonged to the Igbo tribe, 125 (62.5%) are Binis while 37 (18.5%) responded by selecting others. The table also showed that 33 (16.5%) of the respondents had primary school educational qualification, 146 (73%) had it up to secondary school educational qualification while 21(10.5%) had it up to tertiary educational qualification. The table also showed the occupation of the respondents as 6(3%) of the respondents are farmers, 116 (58%) are Business Owners, 11 (5.5%) are Civil Servants while 67 (33.5%) responded by selecting others.

SECTION B: DESCRIPTIVE STATISTICS:

Table 2: Knowledge and perception of pregnant women about the significance of exercise in pregnancy

S/N	QUESTIONS	RESPONSE	FREQUENCY	PERCENTAGE
1.	I am aware that exercise during pregnancy plays a significant role at improving maternal health and child delivery?	Strongly Agree	106	83%
		Agree	94	47%
		Disagree	0	0%
		Strongly disagree	0	0%
		Total	200	100%
2.	I know that regular exercise during pregnancy helps to lessen back ache during pregnancy?	Strongly Agree	94	47%
		Agree	92	46%
		Disagree	14	7%
		Strongly disagree	0	0%
		Total	200	100%
3.	I know that adequate exercise during pregnancy helps to reduce the length of labor and prevent delivery problems?	Strongly Agree	59	29.5%
		Agree	121	60.5%
		Disagree	8	4%
		Strongly disagree	12	6%
		Total	200	100%
4.	I know that exercise during pregnancy helps to reduce the risk of high blood pressure during pregnancy?	Strongly Agree	75	37.5%
		Agree	105	52.5%
		Disagree	2	1%
		Strongly disagree	18	9%
		Total	200	100%

5. I am aware that regular exercise during pregnancy helps to prevent diabetes that develops during pregnancy?	Strongly Agree	101	50.5%
	Agree	60	30%
	Disagree	16	8%
	Strongly disagree	23	11.5%
	Total	200	100%

Source: Field Survey, (2022).

The table above discussed the responses of the respondents on various questions asked as regards knowledge and perception of pregnant women about the significance of exercise in pregnancy in the study area. It was revealed through response to question 1 that 106 (83 %) of the respondents strongly agreed and 94 (47 %) agreed that they are aware that exercise during pregnancy plays a significant role at improving maternal health and child delivery. It was also made known through response to question 2 that 94 (47 %) of the respondents strongly agreed, 92 (46 %) agreed and 14 (7 %) disagreed that they know that regular exercise during pregnancy helps to lessen back ache during pregnancy. The table also revealed through response to question 3 that 59 (29.5 %) of the respondents strongly agreed, 121 (60.5 %) agreed, 8 (4 %) disagreed and 12 (6 %) strongly disagreed that they know that adequate exercise during pregnancy helps to reduce the length of labor and prevent delivery problems. It was also made known through response to question 4 that 75 (37.5 %) of the respondents strongly agreed, 105 (52.5 %) agreed, 2 (1 %) disagreed and 18 (9 %) strongly disagreed that they know that exercise during pregnancy helps to reduce the risk of high blood pressure during pregnancy. However, response to question 5 indicated that 101 (50.5 %) of the respondents strongly agreed, 60 (30 %) agreed, 16 (8 %) disagreed and 23 (11.5 %) strongly disagreed that they are aware that regular exercise during pregnancy helps to prevent diabetes that develops during pregnancy.

Table 3: Knowledge of pregnant women about the negative effects of not exercising during pregnancy

S/N	QUESTIONS	RESPONSE	FREQUENCY	PERCENTAGE
6.	I know that lack of adequate exercise during pregnancy leads to increased risk of fetal death?	Strongly Agree	73	36.5%
		Agree	104	52%
		Disagree	9	4.5%
		Strongly Disagree	14	7%
		Total	200	100%
7.	I know that lack of adequate exercise during pregnancy contribute to congenital malformation?	Strongly Agree	119	59.5%
		Agree	41	20.5%
		Disagree	21	10.5%
		Strongly Disagree	19	9.5%
		Total	200	100%
8.	I know that lack of adequate exercise during pregnancy serve as a factor that contribute to complications before and after pregnancy?	Strongly Agree	85	42.5%
		Agree	104	52%
		Disagree	8	4 %
		Strongly Disagree	3	1.5%
		Total	200	100%
9.	I know that children of obese mothers (due to lack of exercise) have increased risk of some complication such as birth injuries?	Strongly Agree	101	50.5%
		Agree	68	34%
		Disagree	20	10%
		Strongly Disagree	11	5.5%
		Total	200	100%

Source: Field Survey, (2022).

The table above discussed the responses of the respondents on various questions asked as regards the knowledge of pregnant women about the negative effects of not exercising during pregnancy. Response to question 6 that 73 (36.5 %) of the respondents strongly agreed, 104 (52 %) agreed, 9 (4.5 %) disagreed and 14 (7 %) strongly disagreed that they know that lack of adequate exercise

during pregnancy leads to increased risk of fetal death. It was gathered through response to question 7 that 119 (59.5 %) of the respondents strongly agreed, 41 (20.5 %) agreed, 21 (10.5 %) disagreed and 19 (9.5 %) strongly disagreed that they know that lack of adequate exercise during pregnancy contribute to congenital malformation. Response to question 8 indicated how 85 (42.5 %) of the respondents strongly agreed, 104 (52 %) agreed, 8 (4 %) disagreed and 3 (1.5 %) strongly disagreed that they know that lack of adequate exercise during pregnancy serve as a factor that contribute to complications before and after pregnancy. It was discovered through response to question 9 that 101 (50.5 %) of the respondents strongly agreed, 68 (34 %) agreed, 20 (10 %) disagreed and 11 (5.5 %) strongly disagreed that they know that children of obese mothers (due to lack of exercise) have increased risk of some complication such as birth injuries.

Table 4: Level of practices of exercise among pregnant women

S/N	QUESTIONS	RESPONSE	FREQUENCY	PERCENTAGE
10.	I regularly engage in exercise during pregnancy?	Strongly Agree	128	64%
		Agree	67	33.5%
		Disagree	3	1.5%
		Strongly Disagree	2	1%
		Total	200	100%
11.	How could your practice of exercise be measured?	Regularly	192	96%
		Occasionally	6	3%
		1-3 times a week	2	1%
12.	I always feel the impact of the exercise?	Strongly Agree	153	76.5%
		Agree	28	14%
		Disagree	10	5%
		Strongly Disagree	9	4.5%
		Total	200	100%

13. I believe that there is a need for you to continue your exercise during pregnancy?	Strongly Agree	166	83%
	Agree	22	11%
	Disagree	8	4%
	Strongly Disagree	4	2%
	Total	200	100%

Source: Field Survey, (2022).

The table above focused on the level of practices of exercise among pregnant women in the study area. It was revealed through response to question 10 that 128 (64 %) of the respondents strongly agreed, 67 (33.5 %) agreed, 3 (1.5 %) disagreed and 2 (1 %) strongly disagreed that regularly engage in exercise during pregnancy. It was also gathered through response to question 11 that 192 (96 %) of the respondents selected regularly, 6 (3 %) selected occasionally while 2 (1 %) selected 1-3 times a week as a measure for their practice of exercise. Response to question 12 indicated how 153 (76.5 %) of the respondents strongly agreed, 28 (14 %) agreed, 10 (5 %) disagreed and 9 (4.5 %) strongly disagreed that they always feel the impact of the exercise. More so, response to question 13 indicated how 166 (83 %) of the respondents strongly agreed, 22 (11 %) agreed, 8 (4 %) disagreed and 4 (2 %) strongly disagreed that there is a need for you to continue your exercise during pregnancy.

Table 5: Factors affecting the practice of exercise among pregnant women

S/N	QUESTIONS	RESPONSE	FREQUENCY	PERCENTAGE
14. I feel inadequate knowledge and poor perception affects the practice of exercise among pregnant women in this community?		Strongly Agree	135	67.5%
		Agree	41	20.5%
		Disagree	14	7%
		Strongly Disagree	10	5%
		Total	200	100%

15. I observed that maternal education affects the practice of exercise among pregnant women in this community?	Strongly Agree	126	63%
	Agree	51	25.5%
	Disagree	17	8.5%
	Strongly Disagree	6	3%
	Total	200	100%
16. I noticed that lack of time is a factor that affects exercise among pregnant women in this community?	Strongly Agree	168	84%
	Agree	24	12 %
	Disagree	5	2.5%
	Strongly Disagree	3	1.5%
	Total	200	100%
17. I discovered that safety concerns and fear affect the practice of exercise among pregnant women in this community?	Strongly Agree	142	71%
	Agree	27	13.5%
	Disagree	8	4%
	Strongly Disagree	23	11.5%
	Total	200	100%
18. I believe that lack of motivation contribute to lack of adequate practice of exercise among pregnant women in this community?	Strongly Agree	165	82.5%
	Agree	18	9%
	Disagree	11	5.5%
	Strongly Disagree	6	3%
	Total	200	100%
19. I observe that cultural factors affect how pregnant women in this community practice exercise?	Strongly Agree	124	62%
	Agree	50	25%
	Disagree	18	9%
	Strongly Disagree	8	4%
	Total	200	100%

20. I noticed that lack of exercise among pregnant women in this community could be attributed to lack of social support?	Strongly Agree	79	39.5%
	Agree	105	52.5%
	Disagree	7	3.5%
	Strongly Disagree	9	4.5%
	Total	200	100%
21. Availability of facilities and equipment for preferred exercise negatively affect the practice of exercise among pregnant women in this community?	Strongly Agree	108	54%
	Agree	61	30.5%
	Disagree	19	9.5%
	Strongly Disagree	12	6%
	Total	200	100%

Source: Field Survey, (2022).

The table above discussed the factors affecting the practice of exercise among pregnant women in the study area. It was gathered through response to question 14 that 135 (67.5 %) of the respondents strongly agreed, 41 (20.5 %) agreed, 14 (7 %) disagreed and 10 (5 %) strongly disagreed that inadequate knowledge and poor perception affects the practice of exercise among pregnant women in the study area. It was also indicated through response to question 15 that 126 (63 %) of the respondents strongly agreed, 51 (25.5 %) agreed, 17 (8.5 %) disagreed and 6 (3 %) strongly disagreed that maternal education affects the practice of exercise among pregnant women in the study area. Additionally, response to question 16 revealed how 168 (84 %) of the respondents strongly agreed, 24 (12 %) agreed, 5 (2.5 %) disagreed and 3 (1.5 %) strongly disagreed that lack of time is a factor that affects exercise among pregnant women in the study area. Response to question 17 that 142 (71 %) of the respondents strongly agreed, 27 (13.5 %) agreed, 8 (4 %) disagreed and 23 (11.5 %) strongly disagreed that safety concerns and fear affect the practice of exercise among pregnant women in the study area. More so, through response to

question 18, it was discovered that 165 (82.5 %) of the respondents strongly agreed, 18 (9 %) agreed, 11 (5.5 %) disagreed and 6 (3 %) strongly disagreed that lack of motivation contribute to lack of adequate practice of exercise among pregnant women in the study area. It was also indicated through response to question 19 that 124 (62 %) of the respondents strongly agreed, 50 (25 %) agreed, 18 (9 %) disagreed and 8 (4 %) strongly disagreed that cultural factors affect how pregnant women in the study area practice exercise. In addition, through response to question 20, it was revealed that 79 (39.5 %) of the respondents strongly agreed, 105 (52.5 %) agreed, 7 (3.5 %) disagreed and 9 (4.5 %) strongly disagreed that lack of exercise among pregnant women in the study area could be attributed to lack of social support. It was discovered through response to question 21 that 108 (54 %) of the respondents strongly agreed, 61 (30.5 %) agreed, 19 (9.5 %) disagreed and 12 (6 %) strongly disagreed that availability of facilities and equipment for preferred exercise negatively affect the practice of exercise among pregnant women in the study area.

Testing of Hypotheses

Hypotheses one (1):

There is no significant relationship between the knowledge of pregnant women in Ikphoba-Okha Local Government about the benefits of exercise during pregnancy and their participation in exercise.

Variables	Positive (S.A & A)	Negative(S.D & D)
I am aware that exercise during pregnancy plays a significant role at improving maternal health and child delivery?	200	0
I know that regular exercise during pregnancy helps to lessen back ache during pregnancy?	186	14
I know that adequate exercise during pregnancy helps to reduce the length of labor and prevent	180	20

delivery problems?		
I know that exercise during pregnancy helps to reduce the risk of high blood pressure during pregnancy?	180	20
I am aware that regular exercise during pregnancy helps to prevent diabetes that develops during pregnancy?	161	39
I regularly get engage in exercise during pregnancy?	195	5
I believe that there is a need for you to continue your exercise during pregnancy?	188	12
Mean	184.28	15.71
Variance	136.77	136.77
Standard Deviation	11.695	11.695

Table 6: The relationship between the knowledge of pregnant women in Ikphoba-Okha Local Government about the benefits of exercise during pregnancy and their participation in exercise.

The variables in this section were analyzed using Students T-test formula and t calculated is 26.9658. **Given that; Degree of freedom; $n - 1$ (7-1) = 6; Alpha (α) value is 0.05, then T – tabulated = 2.4469.** The T- calculated is greater than the T- tabulated at an alpha level of 0.05. Thus, there is need to reject the null hypothesis. This means that there is a significant relationship between the knowledge of pregnant women in Ikphoba-Okha Local Government about the benefits of exercise during pregnancy and their participation in exercise.

Hypotheses two (2):

There is no significant relationship between the perception of pregnant women in Ikphoba-Okha Local Government about the negative effects of not exercising during pregnancy and their participation in exercise.

Variables	Positive (SA & A)	Negative (S.D & D)
I know that lack of adequate exercise during pregnancy leads to increased risk of fetal death?	177	23
I know that lack of adequate exercise during pregnancy contribute to congenital malformation?	160	40
I know that lack of adequate exercise during pregnancy serve as a factor that contribute to complications before and after pregnancy?	189	11
I know that children of obese mothers (due to lack of exercise) have increased risk of some complication such as birth injuries?	169	31
I regularly get engage in exercise during pregnancy?	195	5
I believe that there is a need for you to continue your exercise during pregnancy?	188	12
Mean	179.67	20.33
Variance	149.89	149.89
Standard Deviation	12.24	12.24

Table 7: Relationship between the perception of pregnant women in Ikphoba-Okha Local Government about the negative effects of not exercising during pregnancy and their participation in exercise.

The variables in this section were analyzed using Students T-test formula and t calculated is 22.5478. Given that; Degree of freedom; $n - 1$ ($6 - 1$) = 5; Alpha (α) value is 0.05, then $T - \text{tabulated} = 2.5705$. The $T - \text{calculated}$ is greater than the $T - \text{tabulated}$ at an alpha level of 0.05. Thus, there is need to reject the null hypothesis. This shows that there is a significant relationship between the perception of pregnant women in Ikphoba-Okha Local Government about the negative effects of not exercising during pregnancy and their participation in exercise.

Discussion of Findings

This study was carried out to investigate the knowledge and perception of pregnant women in Ikphoba-Okha LGA towards the benefits of exercise in pregnancy. It is important to note that exercise among pregnant women is really helpful during pregnancy and also during delivery. It helps to reduce fatigue, stress, anxiety and depression, reduced lower back pain, and improves wellbeing. However, it is also important to acknowledge the fact that knowledge and perception of pregnant women is a major determinant of their active participation in exercise. In a bid to assess the knowledge and perception of pregnant women towards the benefit of exercise in pregnancy, some research questions were raised for this study and the reviewed table above have revealed the data gathered so far in this study through the use of questionnaires. The hypothesis of the study was also tested using Student T-Test.

For hypothesis one, the null hypothesis stated that there is no significant relationship between the knowledge of pregnant women in Ikphoba-Okha Local Government about the benefits of exercise during pregnancy and their participation in exercise. The variables were analyzed using Students T-test formula and it was discovered that $T - \text{calculated}$ (26.9658) is greater than the $T - \text{tabulated}$ (2.4469) at an alpha level of 0.05. Thus, there is need to reject the null hypothesis. This means that there is a significant relationship between the knowledge of pregnant women in

Ikphoba-Okha Local Government about the benefits of exercise during pregnancy in and their participation in exercise. This findings tallies with the findings and explanations of Thompson et al., (2017) in a study that was conducted on physical activity during pregnancy and the role of theory in promoting positive behavior change. It was explained in this study that pregnant women's knowledge about the benefits of exercise can play a significant role in their decision to engage in physical activity during pregnancy. Women who are aware of the positive effects of exercise on maternal and fetal health are more likely to engage in regular physical activity. Exercise during pregnancy has been shown to improve cardiovascular fitness, reduce the risk of gestational diabetes, improve mood and sleep, and promote weight management. It can also help to prepare the body for labor and delivery.

For hypothesis two, the null hypothesis stated that there is no significant relationship between the perception of pregnant women in Ikphoba-Okha Local Government about the negative effects of not exercising during pregnancy and their participation in exercise. The variables were analyzed using Students T-test formula and it was discovered that T- calculated (22.5478) is greater than T – tabulated (2.5705) at an alpha level of 0.05. Thus, there is need to reject the null hypothesis. This shows that there is a significant relationship between the perception of pregnant women in Ikphoba-Okha Local Government about the negative effects of not exercising during pregnancy and their participation in exercise. This findings is in accordance with the discovery and discussions of Da-Silva et al., (2016) in a study that was carried out on leisure time physical activity in pregnancy and maternal health. It was discussed in this study that the participation of pregnant women in exercise are at times, influenced by their knowledge about the negative effects of lack of exercise. However, other factors such as access to exercise facilities, their overall health and well-being, and their level of physical activity prior to pregnancy can also play

a role. Pregnant women should be aware that a lack of regular physical activity during pregnancy can increase the risk of gestational diabetes, hypertension, and preterm labor. It can also lead to excessive weight gain, which can have negative consequences for both the mother and the baby.

Research question 1 was about the knowledge and perception of pregnant women in the study area about the significance of exercise in pregnancy. Data gathered about this research question was represented in table 2 above. It was gathered that all of the respondents are aware that exercise during pregnancy plays a significant role at improving maternal health and child delivery (given that some of them agreed and strongly agreed to this). Data also revealed that the respondents know that regular exercise during pregnancy helps to lessen back ache during pregnancy, although 14 (7 %) disagreed to this.. The table also revealed that they know that adequate exercise during pregnancy helps to reduce the length of labor and prevent delivery problems and also that exercise during pregnancy helps to reduce the risk of high blood pressure during pregnancy. This correlates with the findings of Jessica (2018) in her article about cardiorespiratory fitness. She stated that nowadays, almost everyone are aware of the relevance of exercise during pregnancy irrespective of the fact that some do stay in rural areas while some stays at urbanized areas. This is also in line with the discussions of Bergstrom (2016) in his article about cardiovascular fitness and coronary heart diseases risk factor in women. He stated that traditionally, before the pronounced intervention of science and technology, women in our society have been aware of the benefits of exercise during pregnancy, both for the mother and unborn baby. This information is being passed down from generations to generations, although there would be some perceptions among them.

Research question 2 focused on the knowledge of pregnant women about the negative effects of not exercising during pregnancy. Data gathered through response of the respondents, were

represented in table 3 above. It was revealed that the respondents know that lack of adequate exercise during pregnancy leads to increased risk of fetal death, although 9 (4.5 %) disagreed and 14 (7 %) strongly disagreed to this. The respondents also expressed that they know that lack of adequate exercise during pregnancy contribute to congenital malformation and lack of adequate exercise during pregnancy serve as a factor that contribute to complications before and after pregnancy. It was discovered that the respondents attested that they know that children of obese mothers (due to lack of exercise) have increased risk of some complication such as birth injuries although 20 (10 %) disagreed and 11 (5.5 %) strongly disagreed to this. This findings could be said to align with the observations of Gremeaux (2016) in his article about sedentary lifestyle. He stated that he observed that pregnant women of these days are hardly left behind when it comes to important and vital information that they need during pregnancy. This applies to exercise during pregnancy as one can hardly see any pregnant woman that doesn't at least almost half of the required category of information that is needed during pregnancy.

Research question 3 focused on the level of practices of exercise among pregnant women. Data obtained through response of the respondents were presented in table 4 above. It was realized that that the respondents regularly get engaged in exercise during pregnancy although 3 (1.5 %) disagreed and 2 (1 %) strongly disagreed to this. It was also gathered that 11 that 192 (96 %) of the respondents selected regularly, 6 (3 %) selected occasionally while 2 (1 %) selected 1-3 times a week as a measure for their practice of exercise. It was indicated that the respondents attested to the fact that they always feel the impact of the exercise and that there is a need for them to continue their exercise during pregnancy although 8 (4 %) disagreed and 4 (2 %). This is in line with the discussions of Ferraro et al., (2015) in his research on the link between exercise and diabetes among pregnant women in Africa. He stated that even though an entire population of

pregnant women are aware of the relevance of exercise during pregnancy, some of them would not regularly get involved regular exercise during pregnancy, and this could be due to so many factors that act as barrier. In this present study, some of these factors were discovered.

Research questions 4 focused on the factors that affect the involvement of pregnant mothers in exercise during pregnancy. Data obtained were presented in table 5. The table revealed how the respondents highlighted inadequate knowledge and poor perception as a factor that affect the practice of exercise among pregnant women in the study area. It was also indicated that maternal education, lack of time, safety concerns and fear, lack of social support and availability of facilities and equipment for preferred exercise are factors that influence exercise among pregnant women in the study area. These factors could be said to have influenced how the respondents participate in exercise in the study area, as data gathered in table 4 revealed that some of them regularly get involved in exercise and some do not (although they are few). This findings agree with the emphasis of Dianne and Margaret (2014) that some factors are known to obviously influence how people, especially pregnant, get involved in exercise. They further emphasized that some of these factors could be said to include cultural factors, lack of motivation, availability of preferred exercise facilities and equipment, level of maternal education and also employment status among many others.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary

This study was conducted to discover what the pregnant women in Ikphoba-Okha LGA know about the benefits of exercise during pregnancy and also to determine their perception towards the benefits of exercise during pregnancy. From the knowledge of some of the women, there were issues with the poor participation of some pregnant women in exercise during pregnancy, and these are due to some factors. These factors were identified through some series of questions that were formulated in the questionnaire with the guidance of research questions that were drawn for this study.

Findings of this study was able to basically discover that the respondents are adequately aware of the benefits of exercise during pregnancy. It was also discovered that the respondents have great and positive perception towards the benefits of exercise during pregnancy. The respondents were also discovered to participate so well in exercise during pregnancy although few of them signified that they don't regularly get involved in exercise during pregnancy. Some factors were also identified to influence how pregnant women in the study get involved in exercise and some of these factors include lack of motivation, level of maternal health education, lack of time and how available the facilities for exercise are. Hence, it is important to declare that these factors must be specifically assessed and addressed in the study to ensure and encourage the involvement of pregnant women in regular exercise.

Conclusion

In the course of this study, literatures that were reviewed have backed up the fact that exercise during pregnancy is vital for the health of both the mother and the unborn baby. Findings of this study expressed that although all of the respondents are aware of the relevance of exercise during pregnancy, some of them still find it difficult to regularly practice exercise during pregnancy. This score is due to some factors which served as barriers to their active participation. These include lack of time, lack of motivation and cultural factors among many others. Exercise during pregnancy is very important and helps improve maternal and child health. Pregnant patients who get involved in effective practice of exercise are more likely to control weight, increase physical activity, and improve their diet as their physician recommend. Exercises during pregnancy were recommended among pregnant women.

Recommendations

On the basis of the literatures that were reviewed and the findings of this study, the following are recommended;

- Pregnant women should be informed about the relevance of exercise among pregnant women during pregnancy, as this would improve their active participation in the practice of exercise.
- Owning exercise equipment may not be possible for all pregnant mothers, but gaining access to an exercise facility could be possible. Both the sales of the equipment and fee to gain access to the facilities should be subsidized to enable pregnant mothers of any socio-economic level.
- There should be mid-week work-free days for pregnant mothers at both private and government establishments apart from the grants of maternity leave. This would create time

for them, enhance and promote their active participation in such exercises that are beneficial to both their health and that of their baby during pregnancy.

- Both private and government hospitals and health care centers should engage all their registered pregnant mothers in health care schedules. All pregnant mothers should have a fixed date made compulsory for them to visit the health centre for checkup, advice and updates as regards their health and that of the integration of exercise in their pregnancy-term.

REFERENCES

- Adegbesan, S. M. (2005). What is the Relationship between Exercise and Metabolic abnormalities. *A Review of the Metabolic Syndrome*. *Sports Med* , 34: 371–418.
- American College of Sports Medicine (2020). ACSM Information on Pregnancy Physical Activity. *A Patricia Bauer brochure*. ACSM's Consumer Outreach Committee.
- Bergstrom, S.C. (2016). "Cardiorespiratory Fitness and Coronary Heart Disease Risk Factor Association in Women". *Journal of the American College of Cardiology*. 26(2), 358-64.
- Bergstrom, K., Muse, T., Tsai, M. and Strangio, S. (2011). "Fitness for Foreigners". *Slate Magazine*.
- Chasan-Taber L. (2012). Physical activity and dietary behaviours associated with weight gain and impaired glucose tolerance among pregnant Latinas. *Journal of Advanced Nutrition*. 2012;3(1): pp 108–18
- Collins, A. J. (2010). "What Is Fitness?" (PDF). A Crossfit article. Available at crossfit.com
- Da-Silva S. G., Ricardo L.I., Evenson K.R. and Hallal P.C. (2016). Leisure time physical activity in pregnancy and maternal-child health: A systematic review and metaanalysis of randomized controlled trials and cohort studies. *Sports Med J*. 2016;47(2): pp 1–23
- De-Souza N. (2010). A Review of the Physiological Effects of Exercise. *Int J Clin Pract Suppl* 65 (170), 71–89.
- De-Vos N., Singh N., Ross D. and Stavrinou T. (2005). "Optimal Load for Increasing Muscle Power during Explosive Resistance Training in Older Adults". *The Journals of Gerontology*. 60 (5): 638–47.

- Department of Health And Human Services, United States (1996). "Physical Activity and Health". United States Department of Health.
- Deslandes, A., Moraes, H., Ferreira, C. and Veiga, H. (2009). "Exercise and Mental Health: Many Reasons to Move". *Journal of Neuropsychobiology*. 59 (4): 191–98.
- Evenson. S. and Wen, L. (2006). "High Density Lipoprotein Cholesterol, Habitual Physicalactivity and Physical Fitness". *Atherosclerosis*. 57(1),43-51.
- Gremeaux, T. I. (2016). Sedentary Lifestyle, Poor Cardiorespiratory Fitness, and The Metabolic Syndrome. *Med Sci Sports Exerc*, 35: 1279–86.
- Gremeaux, V., Gayda, M., Lepers, R., Sosner, P. and Nigam, A. (2012). "Exercise and longevity". *Maturitas*. 73 (4): 312–17.
- Heggard D. (2008). "Why Walking is the Most-recommended Exercise". *BellaOnline*.
- James W. (2015). Lipoproteins in Men and Women aged 50-65 years". *American Heart Journal*. 91(10), 2596-04.
- Kramer, M. S., and McDonald S. W. (2015). Aerobic exercise for women during pregnancy. *Cochrane Database Syst Rev* (3): CD000180.
- Kylasov, B. and Gavrov, W. (2011). "Physical Activity and Serum Lipids: A Cross Sectional Population Study in Eastern Finnish Men". *American Journal of Epidemiology*. 136(7),86-98.
- Lee, I. m., Shiroma, E. J., Steven, N. and Katzmarzyk, P. T. (2012). "Impact of Physical Inactivity on the World's Major Non-Communicable Diseases". *Lancet J*. 380 (9838): 219–29.

- Lewis C., Laursen, O. P., Kristiansen, J. L., Marott, P. S. and Eva P. (2008). Intensity versus Duration of Physical Activity: Implications for The Metabolic Syndrome. *BMJ Open* (2).
- Linne, Y. and Neovius, M. (2006). Identification of women at risk of adverse weight development following pregnancy. *Int J Obes (Lond)*. 2006;30:1234–9.
- Lloyd-Jones, N. F. and Scott, C. B. (2011). “Women walking for health and fitness. How much is enough?” *Journal of the American Medical Association*. 266 (23), 3295-9.
- Mac-Phail E., James, S., John, A., and Fredrick, A. (2000). "Effect of Exercise, Three Exercise Intensities on Salivary Cortisol", *Journal of Strength and Conditioning Research*, 16 (2), 286-289.
- Margaret, V. A., Ferreira, L. D., Jones, T. W. and Fournier, P. A. (2013). *The 10-sMaximalprint: A Novel Approach to Counter an Exercise-mediated fall in Glycaemia in Individuals with Type 1 Diabetes*. *Diabetes Care*. 29: 601–606
- Mary R. A. (2018). "7 great reasons why exercise matters". An article on relevance of Exercise during pregnancy. Mayo Clinic Article.
- Nascimento S. L., Surita F. G. and Cecatti J. G. (2012). Physical exercise during pregnancy: Asystematic review. *Current Opinion J Obstetr Gynaecol*. 2012; 24(6):387–94.
- Sebire N. J., Jolly M. and Harris J. P. (2001). Maternal obesity and pregnancy outcome: a study of 287, pregnancies in London. *Int J Obes*. 2001;25: pp 11, 75–82.
- Siega A. M., Viswanathan M., Moos M. K., Deier A., Mumford S. and Knaack J. (2009). A systematic review of outcomes of maternal weight gain according to the Institute of

- Medicine recommendations: birthweight, fetal growth, and postpartum weight retention. *Am J Obstet Gynecol.* 2009; 201: pp 1–14.
- Sternfeld, P. F. (2007). “Physical Activity and High Density Lipoprotein Cholesterol Levels”. *Journal of Sports Medicine* 28(5), 307-14.
- Stoll, B. J., Hansen, N. I., Shankaran, S. and Walsh, M. C. (2010). Neonatal outcomes of extremely preterm infants from the NICHD: *Journal of Neonatal Research Network. Pediatrics*, 126, 443–456. PMID: 20732945.
- Streuling S. A., Lakka, T. A. and Laaksonen, D. E. (2010). Physical Activity in Prevention and Treatment of The Metabolic Syndrome. *Appl. Physiol. Nutr. Metab.*;32:76–88.
- Thomas A. E. (2021). "Return to Movement: Roles of Movement on Our Mind and Body". A systematic review. *J Sport Health Sci.* 2021; 8: pp 151-169.
- Thompson E. L, Vamos C. A. and Daley E. M. (2017). Physical activity during pregnancy and the role of theory in promoting positive behaviour change: A systematic review. *J Sport Health Sci.* 2017;6:198–206.
- United State Department of Health and Human Services (2018). "Exercise". UKNHS Live well.
- Vamos C.A., Flory, S., Sun, H., DeBate, R., Bleck, J. and Thompson, E. (2015). Do physical activity patterns across the life course impact birth outcomes? *Matern Child Health J.* 2015;19(8): pp 1775–82.
- Vasudevan C., Renfrew M. and McGuire W. (2011). Fetal and perinatal consequences of maternal obesity. *Arch Dis J Child Fetal Neonatal Ed.* 2011;96:F378-82

Wilmore, I. and Knuttgen, H. (2003). "Aerobic Exercise and Endurance Improving Fitness for Health Benefits". *The Physician and Sports medicine*:31 (5), 45.

Zhang Y., Dong S., Zuo J. X., Zhang H. and Zhao Y. (2014). Physical activity level of urban pregnant women in Tianjin, China: A cross-sectional study. *PLoS One*. 2014; 9 (10): e109624.

APPENDIX

UNIVERSITY OF BENIN

FACULTY OF EDUCATION

DEPARTMENT OF HUMAN KINETICS AND SPORT SCIENCE

RESEARCH QUESTIONNAIRE

Dear respondents, ‘

I am a student of the above named institution carrying out a research on a topic that states **“Investigating the knowledge and perception of pregnant women in Ikphoba-Okha LGA towards the benefits of exercise in pregnancy”**. This study is purely for academic purpose and your assistance is needed in the completion of the work by filling the questionnaire. All information and answers provided will be treated with strict confidence.

Please answer the statement below by ticking (✓) the one you consider most appropriate among the alternatives. **S.A = Strongly Agree; A = Agree; D = Disagree; S.D = Strongly disagree.**

Section A: Demographic information

1. Age: 22 - 27 years (), 28 – 33 years (), 34 – 39 years (), 40 – 45 years (), 46 years and above ().
2. Religion: Christianity (), Islam (), Others ().
3. Tribe: Yoruba (), Igbo (), Hausa (), Benin (), Others ().
4. Educational qualification: Primary (), Secondary (), Tertiary ().
5. Occupation: Farmer (), Business Owner (), Civil Servant (), Others ().

SECTION B:**A. KNOWLEDGE AND PERCEPTION OF PREGNANT WOMEN ABOUT THE SIGNIFICANCE OF EXERCISE IN PREGNANCY**

S/N	QUESTION	S.A	A	D	S.D
1.	I am aware that exercise during pregnancy plays a significant role at improving maternal health and child delivery?				
2.	I know that regular exercise during pregnancy helps to lessen back ache during pregnancy?				
3.	I know that adequate exercise during pregnancy helps to reduce the length of labor and prevent delivery problems?				
4.	I know that exercise during pregnancy helps to reduce the risk of high blood pressure during pregnancy?				
5.	I am aware that regular exercise during pregnancy helps to prevent diabetes that develops during pregnancy?				

B. KNOWLEDGE OF PREGNANT WOMEN ABOUT THE NEGATIVE EFFECTS OF NOT EXERCISING DURING PREGNANCY

S/N	QUESTION	S.A	A	D	S.D
6.	I know that lack of adequate exercise during pregnancy leads to increased risk of fetal death?				
7.	I know that lack of adequate exercise during pregnancy contribute to congenital malformation?				

8.	I know that lack of adequate exercise during pregnancy serve as a factor that contribute to complications before and after pregnancy?				
9.	I know that children of obese mothers (due to lack of exercise) have increased risk of some complication such as birth injuries?				

C. LEVEL OF PRACTICES OF EXERCISE AMONG PREGNANT WOMEN

S/N	QUESTION	S.A	A	D	S.D
10.	I regularly engage in exercise during pregnancy?				
11.	How could your practice of exercise be measured?	Regularly			
		Occasionally			
		1-3 times a week			
12.	I always feel the impact of the exercise?				
13.	I believe that there is a need for you to continue your exercise during pregnancy?				

D. FACTORS AFFECTING THE PRACTICE OF EXERCISE AMONG PREGNANT WOMEN

S/N	QUESTION	S.A	A	D	S.D
14.	I feel inadequate knowledge and poor perception affects the practice of exercise among pregnant women in this community?				
15.	I observed that maternal education affects the practice of exercise among pregnant women in this community?				

16.	I noticed that lack of time is a factor that affects exercise among pregnant women in this community?				
17.	I discovered that safety concerns and fear affect the practice of exercise among pregnant women in this community?				
18.	I believe that lack of motivation contribute to lack of adequate practice of exercise among pregnant women in this community?				
19.	I observe that cultural factors affect how pregnant women in this community practice exercise?				
20.	I noticed that lack of exercise among pregnant women in this community could be attributed to lack of social support?				
21.	Availability of facilities and equipment for preferred exercise negatively affect the practice of exercise among pregnant women in this community?				