KNOWLEDGE, PERCEPTION AND PRACTICE OF PHYSICAL EXERCISE AMONG FOOD STUFF SELLERS IN BODIJA MARKET, IBADAN NORTH LOCAL GOVERNMENT AREA, OYO STATE

BY

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CERTIFICATION

I certify that this project was carried out by Oluwabusayomi Opeyemi AKEJU under my supervision in the Department of Health Promotion and Education, Faculty of Public Health, College of Medicine, University of Ibadan, Ibadan, Nigeria.

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DEDICATION

My deepest gratitude goes to Almighty God for seeing me through the completion of this programme.

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ABSTRACT

Physical inactivity is now indicated as the fourth leading risk factor for global mortality in the world and can be linked to diverse health conditions such as stroke, hypertension, dementia, cancer, obesity, coronary heart disease and depression. Many researchers have investigated the knowledge, perception and practice of physical exercise among students, bankers and young people in Nigeria but studies have neglected the informal sector such as traders in the market place. This study therefore was designed to investigate the knowledge, perception and practice of physical exercise among food stuff sellers in Bodija market, Ibadan, Oyo State.

The study utilised a descriptive cross-sectional design with a cluster sampling technique to select 383 respondents. A validated semi-structured interviewer-administered questionnaire was used to obtain information on the knowledge, perception, practices, factors influencing practices and willingness to be participating in physical exercise. Respondents' knowledge of physical exercise was measured on a 23-point scale and it was categorised as: ≤7 (Poor), >7-16 (Fair) and >16 (Good). Respondents' perception of physical exercise was measured on a 9-point scale and it was categorised as ≤4 (negative) and scores >4 (positive). Respondents' practice of physical exercise was measured on a 12-point scale and it was categorised as: ≤5 (poor) and scores > 5 (good). The data were analysed using descriptive statistics, Chi-square and Fisher's Exact test at $p \leq 0.05$ with the aid of Statistical Package for Social Sciences (SPSS).

Many (59.5%) of the respondents were females and most (89.6%) `were Yoruba. Majority (70.2%) of the respondents were married and only few (21.7%) of the respondents' had completed tertiary education. Respondents' mean age was 39.5±13.4 and age range 21-40years had the highest percentage (49.6%). Respondents' mean knowledge, perception and practices scores were obtained as 13.2±3.2, 7.0±1.9, and 9.6±2.1 respectively. The results of the study showed that 58.5% had fair knowledge, most (88.5%) of the respondents' had positive perception and some (43.9%) of the respondents' had poor practice of physical exercise. Most of the respondents (85.6%) correctly answered that physical exercise could improve the ability of an individual's body to fight diseases. However, majority (72.6%) of the respondents did not

know that physical exercise is not the same thing as physical activity. Most (88.3%) of the respondents also disagreed that physical exercise is time wasting. However, many (56.9%) of the respondents mentioned that they could not combine food selling business with physical exercise. There was a significant difference between level of knowledge and perception of physical exercise and also, there was a significant difference between level of knowledge and practice of physical exercise.

The respondents' knowledge, perception and practice of physical exercise was fair, positive and good, respectively. Lack of time to practice was a major hindering factor influencing the practice of physical exercise. Therefore, sensitization programmes to educate and promote the practice of physical exercise should therefore be encouraged by health promoters.

Keywords: Physical exercise, knowledge, perception Practice, food stuff sellers
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LIST OF ABBREVIATIONS

WHO	–	World Health Organization
WCPT	–	World Confederation for Physical Therapy
NCDs	–	Non-Communicable Diseases
CDC	–	Centre for Disease Control
CVDs	–	Cardio-Vascular Diseases
CHF	-	Chronic Heart Failure
LDL	–	Low Density Lipoprotein
HDL	–	High Density Lipoprotein
CAD	–	Coronary Artery Disease
USDHHS	–	United States Department of Health and Human Services

OPERATIONAL DEFINITION OF TERMS

Physical Exercise: is a subcategory of physical activity that is planned, structured, repetitive, and purposeful which is geared towards the improvement or maintenance of one or more components of physical fitness.

Moderate-Intensity Exercise: It refers to a moderate amount of physical activity that noticeably accelerates the heart rate.

Vigorous- Intensity Exercise: It refers to a large amount of effort and causes a rapid breathing and a substantial increase in heart rate.

Foodstuff sellers: In this study food stuff sellers refers to market men and women who sell raw food materials such as yam, beans, rice, garri, fish/meat, tomato, pepper and soup condiments such as, crayfish, Locust bean (Iru), Onion and vegetable.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The World Health Organization (2011) on global recommendations on physical exercise for health defines exercise as a subcategory of physical activity that is planned, structured, repetitive and purposeful in the sense that the improvement or maintenance of one or more components of physical fitness is the objective. Physical activity or exercise is one of the most promising non-pharmacological, non-invasive, and cost-effective methods of ensuring health promotion. However, recent statistics show that only a small percentage of older adults including middle-aged persons engage in the recommended amount of regular exercise (Margie, Lewis, James, Carmen, Alan, (2018). Regular participation in physical activity is essential for promoting health, maintaining optimal body weight, body composition, healthy lifestyle, improving standard of living, building and maintaining healthy bone and muscle (Centre for Disease Control and Prevention, 2002, Insel and Roth (2004), WHO (2002) and WHO (2010); Warbouto, Nicol, and Bredin, 2006).

Regular physical exercise has been characterized as a positive health behavior having physiological benefits. Hassmen, Konivula and Uutela, (2000) presented a study that explained the relationship between physical exercise and a number of psychological factors in a large sample of Finnish adults. The primary findings show that the more physically active participants experienced significantly less depression, less suppressed anger, less cynical distrust, and less perceived stress when compared to those who exercised less frequently. Also, the study showed that frequent exercisers seemed to possess a stronger sense of coherence and a stronger feeling of social integration than their inactive counterparts and that their health and fitness were perceived to be better than those who exercised less frequently.

Physical inactivity (lack of physical activity) has been shown to be the fourth leading risk factor for global mortality and (6% of deaths globally) it is estimated to be the main cause for approximately 21-25% of breast colon cancers, 27% of diabetes and approximately 30% of ischaemic heart disease burden (WHO 2010).

Inadequate physical activity or sedentary lifestyle can be linked to diverse health conditions such as stroke, pain, hypertension, dementia, cancer, obesity, high cholesterol level, depression and even death (World Confederation for Physical Therapy (WCPT), 2017, NTUI, 2000). Physical inactivity and sedentary lifestyle are a major public health problem that affects people of all ages.

WHO recommends that adults between 18-65 years old should do at least 150 minutes of moderate-intensity aerobic physical activity throughout the week, or engage in 75 minutes of vigorous-intensity aerobic activity (WHO 2010). There are strong scientific proofs that healthy diet and adequate physical activity (PA), at least 30-60 minutes of moderate-vigorous intensity PA for 3-5 days per week can be effective in mitigating coronary heart disease, stroke, diabetes and other NCDs (WHO, 2005). In spite of public health initiatives, global recommendation by international bodies through numerous declarations, charters and strategies, there is still a high rate of physical inactivity, excessive energy intake, unhealthy diets and engaging in sedentary types of occupation such as trade and office work which is usually accompanied by other high risk dietary and lifestyle behavior such as Cardio-Vascular Disease (CVDs) and some other NCDs (WHO, 2002). WHO Report and World Economic Report, 2005).

In spite of the enormous health benefits of regular Physical Activity/Exercise, several studies have revealed that a large proportion of adults, youths, adolescents and children in many countries in the developed world do not meet the global recommendation of physical activity, thus remaining sedentary (CDC, 2000; WHO, 2009; Bauman, Armstrong, Davies et al, 2001; Lobstein and Jackson-Leach, (2004).

In Nigeria, regular physical exercise has been shown to be one among many other factors for health promotion (Samson-Akpan, Eyo and Joshua 2013). It helps to prevent weight gain and plays a major role in increasing personal well-being by reducing stress, anxiety and depression. (Stear, 2003). Despite the health benefits of physical activities or exercise, studies have shown that physical activity participation declined with age, gender, socio-economic status and high adoption of urbanization in current technological advancement, thus, making a change in people behavior pattern as regard to sedentary lifestyle (Ajala, 2005).

The knowledge, perception, practices, factors that influence participation and willingness to participate in physical exercise have not been properly looked into in several occupation or groups most especially the informal sectors which have also been found to indulge in sedentary life style or inadequate physical activity or physical exercise for health promotion. Those who sell food stuffs at the Bodija Market are among such occupation groupings.

1.2 Statement of the Problem

Non-Communicable diseases (NCDs) account for 60% of all estimated deaths worldwide resulting to about 35 million people dying each year of NCDs such as heart disease, cancer, diabetes and stroke. About 80% of such recorded deaths occur in low-middle income countries including Nigeria (WHO 2005). It is estimated that non-communicable diseases will account for about 52 million deaths in people by 2020 especially in young adults as many of them are physically inactive (WHO 2013). Physical inactivity and sedentary lifestyle may lead to health conditions which include obesity, type 2 diabetes, CVDs, stroke, cancer and lung disease (Centre for Disease Control (CDC, 2002).

The market place is an occupational environment that can predispose individuals to obesity, overweight and CVDs mainly due to the sedentary nature and enhanced access to food. Previous studies show that market men and women spend most hours of the day sitting down and are involved in many sedentary activities and consume diets that have potential for increasing the risk of developing obesity and hypertension. (Afolabi, et al, 2004)

A study of traders across various parts of Nigeria revealed prevalence of obesity to be 16.3% in Ibadan (Balogun and Owoaje, 2007), 12.3% in Lagos (Odugbemi et al, 2012) and 28.1% in Sokoto (Awosan et al, 2014). Consequences of physical inactivity are implicated in various health challenges such as diabetes, stroke, and cardio-vascular disorders (Ekpenyoung et al 2011).` Low participation of adults in exercise is attributed to factors such as lack of knowledge, motivation, time, social support, laziness, fear of injury or health problems, lack of self-confidence, cultural beliefs among others. (Katrina 2008).

The knowledge, perception, practices, factors that influence participation and willingness to participate in physical exercise have not been properly looked into in several occupation or

groups most especially the informal sectors which have also been found to indulge in sedentary life style or inadequate physical activity or physical exercise for health promotion. Those who sell food stuffs at the Bodija Market are among such occupation groupings.

1.3 Justification for the Study

Despite the health benefits of physical activity, there are limited studies focusing on the burden of physical inactivity among sedentary types of occupation such as the traders. This study will help to add to the body of knowledge on the level of knowledge, perception and factors influencing the practices of physical exercise among food stuff sellers in Ibadan.

Research on physical exercise conducted in the past has focused mainly on formal sectors/occupation such as among bankers, students, pregnant women and literates. In this regards, this study will focus on the informal sector which is the market traders and will target the foodstuffs sellers which have also been found to indulge in sedentary life style or inadequate physical activity or physical exercise for health promotion.

Also, this study is important in the area of food chain as the nature of their profession ties them down on one spot and requires that they spend their entire week in the market trying to make a living.

The finding from the study will also provide evidence based information that can be used by public experts and policy makers in designing effective health promotion and education interventions to address low levels of physical exercises among the target population.

1.4 Research Questions

1. What is the level of knowledge of physical exercise among food stuff sellers in Bodija market?
2. What is the perception of physical exercise among food stuff sellers in Bodija market?
3. What is the level of practice of physical exercise among food stuff sellers in Bodija market?
4. What is the level of willingness to be participating in physical exercise among food stuff sellers in Bodija market?

5. What are the factors influencing the practice of physical exercise among food stuff sellers in Bodija market?

1.5 Objective

1.5.1 Broad Objective

To investigate the knowledge, perception and practices of physical exercise among foodstuff sellers in Bodija market, Ibadan North Local Government Area, Oyo State.

1.5.2 Specific Objectives

The specific objectives of this study are to;

1. Assess the level of knowledge of physical exercise among foodstuff sellers in Bodija market
2. Assess the perception of physical exercise among foodstuff sellers in Bodija market
3. Determine the practice of physical exercise among foodstuff sellers in Bodija market
4. Determine the willingness to be participating in physical exercise among food stuff sellers in Bodija market
5. Identify the factors which influence participation in physical exercise among foodstuff sellers in Bodija market

1.6 Hypotheses

Ho1 There is no significant difference between the socio-demographic characteristics (sex, age, and level of education) of the respondents and their level of knowledge of physical exercise

Ho2 There is no significant difference between level of knowledge and perception of physical exercise.

Ho3 There is no significant difference between factors influencing the practice of physical exercise and their willingness to participate in physical exercise.

Ho4 There is no significant difference between factors influencing the practice of physical exercise and practice of physical exercise.

Ho5 There is no significant difference between level of knowledge and practice of physical exercise.

1.8 Study Variables

The **Independent Variables** in this study are; age, gender, marital status, religion, ethnicity, level of education.

The **Dependent Variables** in this study are; knowledge of physical exercise, perception of physical exercise, practice of physical exercise; factors influencing practice of physical exercise and willingness to be participating in physical exercise.

CHAPTER TWO

LITERATURE REVIEW

2.1 Concept of physical exercise

Evidence shows that regular physical activity is safe for young, adults and frail older people and the risks of developing major cardiovascular and metabolic diseases, obesity, falls, cognitive impairments, osteoporosis and muscular weakness are decreased by regularly engaging in activities ranging from low intensity walking through to more vigorous sports and resistance exercises. Yet, participation in physical activities remains low amongst older adults, particularly those living in less affluent areas. Older people may be encouraged to increase their activities if influenced by clinicians, family or friends, keeping costs low and enjoyment high, facilitating group-based activities and raising self-efficacy for exercise (McPhee et al, 2016).

According to the World Health Organization (WHO), physical exercise is a subcategory of physical activity that is planned, structured, repetitive and purposeful in the sense that the improvement or maintenance of one or more components of physical fitness is the objective. (WHO, 2011). The medical dictionary defined exercise as a physical activity that is planned, structured, and repetitive for the purpose of conditioning any part of the body. Exercise is used to improve health, maintain fitness and is important as a means of physical rehabilitation. Exercise is useful in preventing or treating coronary heart disease, osteoporosis, weakness, diabetes, obesity and depression. A well balance exercise programme can improve general health, build endurance, and slow many of the effects of aging. (Harvard Medical School, 2014). Regular exercise may thus contribute to enhancement of health in people of all ages (Aarts, Paulussen, and Schaalma, 1997).

In general, the more often a person is physically active, the better their physical capability. This is due to adaptations of physiological systems, most notably within the neuromuscular system to coordinate movements, the cardiopulmonary system to more effectively distribute oxygen and nutrients around the body, and metabolic processes particularly those regulating

glucose and fatty acid metabolism, which collectively increase overall aerobic power and physical strength. Therefore, frailty is directly modifiable through physical activity habits. (Department of Health 2011; Tak et al. 2013). A survey of >92,000 people in England showed that exercise participation declines progressively throughout adult life and so does the desire to participate (Department for Culture 2011). Indeed, only around half of all adults and just a quarter of people aged over 65 years meet the minimum recommended activity levels needed to maintain health (Department of Health 2011). Inactivity is the major cause of poor physiological fitness and disease in older age, at least equal to the effects of smoking, drinking excessive alcohol intake and obesity (Booth et al. 2000; Lee et al. 2012). Sedentary people aged 50 years and older had twice the risk of death compared with those who had the highest level of physical activity after adjusting for a range of risk factors (including age and socio-economic position) (Nazroo et al. 2008). For example, those who retire from work are more likely than those who remain in work to change to low levels of physical activity from both high and medium levels (Matthews et al. 2014) and people aged 70–79 years are about half as likely as those aged 50 to 59 years to be engaged in high levels of physical activity (Matthews et al. 2014). People aged >80 years are over 50 % less likely than those in their early 50 s to engage in sports or to want to increase their activity levels.

Physical exercise and activity are widely promoted as effective means to enhance health and physical functioning of elderly persons and the link between physical exercise and premature mortality and prevention of coronary heart disease, hypertension and diabetes is well establish in scientific literature, (Keysor, 2003). Physical activity has been defined as “any bodily movement produced by the contraction of skeletal muscle that substantially increases energy expenditure”. Activities include walking, hiking, gardening, sport, and dance. The common element is that these activities result in substantial energy expenditure, although the intensity and duration can vary considerably (Stensel, 2009).

Physical exercise promotes health in different physiological and psychological ways in both adults and adolescents. Exercise, if carried out regularly and with sufficient physical intensity, is associated with increase strength and flexibility which reduces the risk of cardiovascular diseases, and may be used for the effective treatment of stress and depression (Blair et al,

1992; Sallis and Patrick, 1994). The benefit of exercise does not only improve physical health, but also enhance emotional well-being.

On the basis of existing literature, it is safe to accept that physical exercise regimens will have a positive influence on depression and some school of thought also suggest that aerobic exercise is the most effective type of exercise to yield the most positive effects. These types of aerobic exercise includes activities such as walking, jogging, cycling, light circuit training, and weight training, and other forms of sports extending over several months. (Scully, Kremer, Meade, Graham, and Dudgeon, 1998). Physical exercise has been shown to be relatively safe during supervised training sessions. (Schuler et al. 1992). Hambrecht et al., (1998) did a study that provided evidence that long-term aerobic exercise training in patients with Chronic Heart Failure (CHF) restores endothelial function of the skeletal muscle microvasculature of the lower limb. Therefore, a carefully and individually tailored programme of physical activity should be made available to patients with CHF to reverse the deleterious effects of endothelial dysfunction, i.e. increased peripheral resistance and reduced oxygen delivery to the working skeletal muscle.

Physical activity, exercise and physical fitness are separate terms which are not synonymous, while some people get confused about them, others mistake one for another and many often even use some of these terms interchangeably. Armstrong and Welshman, (2006) gave a district explanation of the terms. They see physical activity as a complex set of behaviors which encompasses any bodily movement produced by the skeletal muscles that result in energy expenditure above the resting level. Physical Exercise is equally seen by them as a sub-category of physical activity that is planned, structured, repetitive which often results in the improvement or maintenance of one or more of the components of physical fitness. Exercise training is the systematic use of exercise of specific intensities, duration and frequencies to attain a desired effect. Physical Fitness is a phenomenon that is fast becoming a thing of much interest to the people of Nigeria especially at this time when the country is plagued with increased tension and stress which has led to increase inactivity especially among youths. Clarke, (1967) is of the view that fitness is the state which characterizes the degree to which a person is able to function efficiently. The greater the physical fitness the longer the person keep going (Adesina, 2012).

2.2 Knowledge of physical exercise among food stuff sellers

Exercise includes a wide range of activities like dancing, gardening, walking or playing football and exercise can also be done at home but some people have a wrong idea that exercise can only be done in gymnasium, recreational park, or a stadium, etc. As long as physical activity causes sweating it is considered as exercise. Muscular contraction during dynamic exercise generates heat which rapidly boosts internal temperature, followed by increasing in perspiration rate (Shibasaki et al., 2006). However, going to market and sitting down in hot place or under the hot sun can also cause people to sweat but this is not exercise. This is due to evaporative heat loss form the sweat glands (Shibasaki et al., 2006). An adequate knowledge on practicing exercise can encourage people to exercise regularly.

Findings from a study conducted in Bangkok showed that with relation to knowledge of exercise, most people lacked knowledge of the benefits of exercise rather than how to do exercise and when to stop exercising. People who had a higher educational level than secondary school and a high income, practiced exercise every day. They acquired their knowledge of exercise from attending an exercise course. (Dajpratham et al, 2007)

2.2.1 Types of Physical Exercise

Aerobic exercise

By definition, aerobic exercise means “with oxygen”. Aerobic exercise is any exercise that raises the heart rate and increases respiration (breathing). Aerobic exercise helps to keep the heart, lungs and circulatory system healthy. Examples include walking, running, dancing, performing intervals on an elliptical machine, and a resistance training circuit that has little or no rest between exercises. (National Academy of Sport Medicine, 2013)

Colcombe et al., (2006) revealed that significant increases in brain volume, in both gray and white matter regions, were found as a function of fitness training for the older adults who participated in the aerobic fitness training and explained that cardiovascular fitness is associated with the sparing of brain tissue in aging humans, Andersen et al., (1999) found that vigorous aerobic exercise resulted in a significantly greater sparing of lean tissue than did lifestyle activity.

Higashi et al., (1999) explained that a 12 week aerobic exercise programme raised HDL cholesterol but lowered total cholesterol and LDL cholesterol. Daily aerobic exercise significantly lowered the systolic blood pressure by 7mm Hg and the diastolic blood pressure by 4mm Hg. It is clinically important that brisk walking, a safe form of daily exercise not only can lower blood pressure but also may improve endothelial function in essential hypertensive patients. In a report that included findings from multiple well done studies, researchers found that walking reduced the risk of cardio-vascular events by 31% and also cut the risk of dying by 32% (Harvard Medical School, 2009).

Regular aerobic exercise is associated with a reduced risk of atherosclerotic vascular disease and acute cardiovascular events, particularly in middle-aged and older adults (Desouza et al., 2000). There is now good evidence that aerobic and resistance exercise enhances mood states, and can improve cognitive function in adults (Fox, 1999).

Anaerobic exercise

By definition, Anaerobic means "without oxygen". Anaerobic exercise is an activity that causes one to be quickly out of breath. Examples of anaerobic exercise include heavy weight training, sprinting (running or cycling) and jumping. Basically, any exercise that consist of short exertion, high-intensity movement is an anaerobic exercise. Anaerobic fitness is needed in more intensive daily activities such as climbing stairs, playing outside, and cycling against a strong wind. Anaerobic exercise is also needed in sports with short intensive bursts of activity such as soccer, volleyball, and athletics (Lelieveld et al., 2007).

Recent evidence indicates that high anaerobic work does result in oxidative modification to the macro-molecules in both skeletal muscle and blood. Also, it appears that chronic anaerobic exercise training can induce adaptions that act to attenuate the exercise induced oxidative stress (Bloomer and Goldfarb, 2004). Girls are more prone than boys to develop sedentary lifestyle patterns, and sedentary patterns developed in youth and adolescence are likely to persist over time, resulting in a sedentary lifestyle (Garcia et al., 1995)

2.2.2 Importance of physical activity and exercise to health

The positive role that physical exercise plays in the prevention and treatment of a range of medical conditions has received a great deal of attention over recent years, with numerous high profile reports supporting the popular information that exercise is good for people. In addition, research has identified the long term protection that regular exercise affords against a plethora of somatic complaints, including coronary heart disease, hypertension, and a number of cancers, diabetes, and osteoporosis (Scully et al., 1998). They opined that there have been several extensive reviews of the exercise psychology literature, which together offer positive if guarded properly, give support for the role that exercise can play in the promotion of positive mental health. This optimism is founded on growing numbers of controlled studies which have identified the positive effective of exercise, most often among clinical populations

Physical exercise results in increased capacity and physical fitness, which may lead to many health benefits. Individuals who are more physically active appear to have lower rates of all-cause mortality, which is due to a decrease in chronic diseases such as coronary artery disease (CAD). This may result from an improvement in cardiovascular risk factors in addition to enhance fibrinolysis, improved endothelial function, decrease sympathetic tone, and other yet undetermined factors (Adamu, Mu, and Abdu, 2005).The potential of participation in leisure time physical activity to contribute to positive health not merely the absence of disease but associated with the capacity to withstand stress (Guatam et al., 2007, Ajibua, Olorushola, Bewaji, 2013).

Hassman et al., (2000) also confirmed that apart from physiological benefits associated with regularity in carrying out physical exercise, a number of psychological benefits have also been reported in the literature. These benefits include reduced depression, anxiety, and anger, as well as improved mood. Muller and khoo (2014) said that an effective non-pharmaceutical way to prevent chronic diseases, increase quality of life and promote general health in older adults is through physical exercise. Recent evidence suggests that physical activity is the strongest predictor of healthy aging and lower probability of disability in men. Recently the investigators have postulated that even lower level of weekly energy expenditure may be

associated with health benefits. A volume of exercise that is about half of what is currently recommended may be sufficient, particularly for people who are frail and elderly, (Warburton, Nicol, and Bredin 2006). Paluska and Schwenk (2000) added that physical activity may play an important role in management of mild-to-moderate mental health illnesses, especially depression and anxiety. Although people with depression tend to be less physically active than non-depressed individuals. Increased aerobic exercise or strength training has been shown to reduce depressive symptoms significantly. Moreover, Scully et al. (1998) also said that one review concludes that regardless of anxiety measures taken (trait or state, behavioral, self-report, physiological) there is a consistent link between exercise and anxiety reduction and that the role that exercise can play is probably best described as preventive rather than corrective, and the stress response itself remains only understood.

Vegatti, Barbosa, et al., (2014) reported that participation in physical activity play a key role in healthy aging and thus in promoting good quality of life. Studies in the past have suggested that elderly patients with adequate physical activity levels live healthier lives and are at lower risk for cardiovascular disease. Additionally, physical exercise has positive effects on psychological, physical, and emotional well-being. Observational studies also suggest that regular physical exercise may be one of the important preventive factors for the onset of late-life disability. Clinical trials among older persons have shown that exercise programme improve objective indexes of physical performance (aerobic capacity, walking speed, and muscle strength) and self-reported functional scores. Exercise also have various beneficial physiological effects, such as improved muscle strength and bone mass and increased aerobic capacity, flexibility, and balance (Penninx, Messier, Rejeski, et al, 2001).

Keysor (2003) stated that physical activity and exercise are widely promoted as effective means to enhance health and physical functioning of elderly persons. All link between physical activity and premature mortality and prevention of coronary heart disease, hypertension, colon cancer, and diabetes is well established in the scientific literature. A substantial amount of scientific evidence shows that older adults who engage in progressive anaerobic and aerobic exercise are able to increase muscle strength, aerobic capacity, and bone density. Muller and khoo, (2014) emphasized that physical activity is effective in

preventing chronic diseases, increase quality of life and promoting general health in older adults, but older adults are not sufficiently active to gain those benefits. An effective non-pharmaceutical ways to prevent chronic diseases, Increase quality of life and promote general health in older adults is through physical activity. Recent evidence suggests that physical activity is the strongest predictor of healthy aging and lower probability of disability in men.

According to WHO (2011), participation in physical activity may play a key role in healthy aging and thus in promoting good quality of life. Studies in the past have suggested that elderly patients with adequate physical activity levels live healthier lives and are at lower risk for cardiovascular disease. Additionally, physical exercise has positive effects on psychological, physical, and emotional well-being (Vagetti, Filho, et al., 2014)

The health benefits of regular physical activity and enhanced physical fitness include lowering of all-cause and coronary heart disease mortality. Results from early studies indicate that individuals who were more physically active at work had lower rates of coronary disease compared with peers who worked in sedentary jobs (Young, Haskell, Taylor, and Fortmann, 1996). Keysor (2003), also asserted that a substantial amount of scientific evidence shows that older adults who engage in progressive resistance training and aerobic exercise are able to increase muscle strength, aerobic capacity, and bone density. (Huttunen et al., 1999) suggested that mild-to moderate physical activity lowers serum triglyceride and raises High Density Lipoprotein (HDL) cholesterol level in healthy, middle-aged men. The results also indicate that mild to-moderate physical exercise is useful adjunct to therapeutic measures used in the exercise has a moderate reducing effects on state and trait anxiety and improve physical self-perceptions and in some cases global self-esteem.

The Centre for Disease Control and Prevention (2011) highlighted the benefits of physical activities by saying physical activity is one of the most important things you can do for your health. It can also help: control weight, reduce the risk of some cancers strengthen the bones and muscles, improve health and mood, improve the ability to do daily activities and prevent falls in older adults and increase the chances of living longer (CDC Global Health - Non Communicable Diseases, 2011).

Reduce the risk of cardiovascular disease: Heart disease and stroke are two leading causes of death in the United States, but following the guidelines and getting at least 150 minutes a week of moderate-intensity aerobic activity can put an individual at a lower risk of getting those diseases. Regular physical exercise can be used to reduce the risk by lowering the blood pressure and improving the cholesterol levels. Adamu et al., (2005) asserted that physical activity results in increased exercise capacity and physical fitness, which may lead to many health benefits. Individuals who are more physically active appear to have lower rates of all-cause mortality, probably due to decrease in chronic diseases such as coronary artery disease (CAD). This may result from an improvement in cardiovascular risk factors in addition to enhanced fibrinolysis, and improved endothelial function. They went further to say that regular exercise results in an increase in exercise capacity and lower myocardial oxygen demand leading to cardiovascular benefits, including lower mortality rates. Physically active individuals suffer from fewer ailments than less-active individuals.

Reduce the risk of type 2 diabetes: Regular physical activity has been shown to reduce the risk developing type 2 diabetes and metabolic syndrome. Metabolic syndrome is a condition in which an individual have some combination of fat around the waist, high blood pressure, low HDL cholesterol, high triglycerides, or high blood sugar. Research shows that lower rates of these conditions are seen with 120 to 150 minutes a week of at least moderate-intensity aerobic activity and the more the activity, the lower the risk will be. Both aerobic and anaerobic types of exercise have been shown to be associated with a decreased risk of type 2 diabetes. In a large prospective study, each increase of 500 kcal (2100 KJ) in energy expenditure per week was associated with a decreased incidence of type 2 diabetes. These benefits was particularly evident among people at risk of diabetes (i.e. those with a high body mass index), a finding that has been supported by several other investigators (Warburton et al., 2006).

Reduce the risk of some cancers: Being physically active lowers the risk for two types of cancer: colon and breast. Research shows that: physically active people have a lower risk of colon cancer than the people who are not active and physically active woman have a lower risk of breast cancer than the woman who are not active. A systematic review of

epidemiologic studies revealed that moderate physical activity was associated with a greater protective effect than activities of less intensity. Physically active women had 20%-30% reduction in the relative risk of breast cancers, in particular breast and regular physical exercise has also been shown to be associated with an improvement in overall quality of life and health status of patients with cancer (Warburton et al., 2006) physical exercise is intervention that may address the broad range of quality of life issues following cancer diagnosis including physical, functional, psychological, emotional well-being (Courneya and Friedenreich, 1999). Bernstein, Henderson, Hanisch, Sullivan-Halley revealed epidemiologic evidence strongly suggests that cumulative exposure to ovarian hormones is a determinant of breast cancer risk. Because physical activity can modify menstrual cycle patterns and alter the production of ovarian hormones, it may reduce breast cancer risk; most previously identified risk factors for breast cancer are reproductive and menstrual events that cannot be readily altered. The protective effect of exercise on breast cancer risk in the women studied suggests that physical activity offers one modifiable lifestyle characteristic that may substantially reduce a woman's lifetime risk of breast cancer

Recuperation from Diseases: Physical exercise helps people recover better and heal faster. It spurs the formation of collagen by helping injured tissues to heal properly. In also appears to decrease the formation of excessive scar tissue, called fibrosis

Development of Strong Bones: Weight-bearing physical exercise causes new bone tissue to form and this makes the bones stronger. This kind of physical exercise also makes the muscles stronger. Bone and muscles both become both become stronger when muscles push and tug against bones during physical exercise. Examples of weight-bearing physical exercises include: walking, jogging, running and climbing stairs. According to Harvard Medical School (2018), regular exercise helps to reduce some age-related bone loss such as osteoporosis (a significant loss of bone density) and osteopenia (low bone mass).

Promotes better sleep: Researchers' don't completely understand how physical exercise improves sleep but regular physical exercise has been proven to help people to fall asleep faster, get better sleep and deepen sleep. According to Johns Hopkins Medicine, performing

aerobic exercise was stated to raise your body temperature and its decline facilitates sleepiness. Exercise strengthen the circadian rhythms by promoting daytime alertness and helping to bring sleepiness at night, Regular exercise has been shown to improve sleep for people with sleep disorders, including insomnia and obstructive sleep apnea.

2.2.3 Prevalence of Physical Activity-Globally, Developing Countries and Nigeria

Hallal, Anderson, Bull, Guthold, Haskell, and Ekelund, (2012) noted that since the industrial revolution, the development of new technologies has enabled people to reduce the amount of physical labour needed to accomplish many tasks in their daily lives. As the availability of new devices has contained to increase, the effects on physical labour and human energy expenditure have grown to include many aspects of the lives of more and more people. The effects of some of these technologies on physical activity are obvious (e.g. steam, gas, and televisions, computers, electronic entertainment, the internet, and wireless communication devices). The use of many of these technologies has been driven by the goal of increased individual worker productivity and reduced physical hardships and disabilities caused by jobs entailing continuous heavy labour. However, the human body has evolved in such a way that most of its systems (e.g., skeletal, muscle, metabolic, and cardiovascular) do not develop and function in an optimum ways unless stimulated by frequent physical activity (Booth, Laye, Lees, Rector, and Thyfault, 2008).

Although the technological revolution has been of great benefit to many populations throughout the world, it is has come at a major cost in terms of the contribution of physical inactivity to the worldwide epidemic of non-communicable diseases (WHO, 2010). Several behavioral and environmental factors and mega trends (major forces in societal development that affect people's lives) affect population levels of physical activity (Pratt, Sarmiento, Mentes, 2012). Hallal et al., 2012) estimated that worldwide, 31% of adults are physically inactive, and 27.5% of people in Africa are inactive than men. They said further that physical inactivity is more common in countries of high income than the low income.

Non-communicable diseases already disproportionately affect low and middle-income countries where nearly 80% of NCD deaths - 29 million - occur. They are the leading causes

of death in all regions except Africa, but current projections indicate that by 2020 the largest increases in NCD deaths will occur in Africa. In Africa nation's, deaths from NCDs are projected to exceed the combined deaths as the most common causes of death by 2030. According to WHO fact sheet about 3.2 million deaths annually can be attribute to insufficient physical activity. The global burden and threat of non-communicable diseases constitutes a major public health challenge that undermines social and economic development throughout the world, and inter alias has the effect of increasing inequalities between countries and within populations (WHO Global for the prevention and control of non-communicable diseases 2013-2020).

Physical inactivity is now identified as the fourth leading risk factor for global mortality. Physical inactivity levels are rising in many countries with major implications for increases in the prevalence of non-communicable disease and the general health of the population worldwide (WHO, 2010). Despite the well-known benefits of regular physical activity, a global report from 2000, comprising 14 sub-regions (WHO, 2002), indicated that 17.7% of the global population (aged 15 years and over) were not engaged in any kind of physical activity, and that nearly 58% was not achieving the recommended amount of moderate intensity activity to be considered physically active (2.5 h/week) (USDHHS, 2008). Roughly one fifth of the world population was inactive. This prevalence was generally higher among women and increased with age. Urban and wealthier countries presented a higher prevalence of physical inactivity (Dumith, Hallal, Reis, and Kohl, 2011).

Heart disease, cancer, diabetes, chronic pulmonary and mental disease became a real burden for health systems in development and regarded as diseases of the rich. Now, at the dawn of the third millennium, NCDs appeared to be sweeping the entire globe, with an increasing trend in development countries (Burden of Disease Unit, 1990; Matthers et al., 2003; WHO, 2003; Boutayeb, 2006).

The level of physical activity is another important risk factor for chronic diseases that is undergoing profound change in developing countries. Caused by some of the same sweeping trends that have led to dietary changes-urbanization, modernization, and changes in

occupational behaviours physical activity in general appears to be declining. Reports from the United State estimate that the population-attributable risk of physical inactivity is significant shares of other poor health conditions, such attributable risk studies are not yet available from developing countries; nonetheless, evidence about the epidemiologic transition point to declining physical activity as a cause of greater chronic disease prevalence (Albala, Vio, Kainanduauy, 2002).

2.2.4 Non-communicable disease and physical exercise/ activity

Lee, Blair, and Katzmarzyk (2012) asserted that strong evidence shows that physical inactivity increases the risk of many adverse health conditions, including major non-communicable diseases such as coronary heart disease, type 2 diabetes, and breast and colon cancers, and shortens life expectancy. Because much of the world's population is inactive this link presents a major public health issue. There are many benefits of physical activity in adolescents, including improved blood lipid profiles, cardiovascular fitness, bone health, and psychological wellbeing (Metcalf et al., 2014)

Physical inactivity is recognized as a risk factors for coronary artery disease regular aerobic physical activity increases exercise capacity and plays a role in both primary and secondary prevention of cardiovascular disease. Exercise training increase cardiovascular functional capacity and diseases myocardial oxygen demand at a level of physical activity in apparently healthy persons as well as in most subjects with cardiovascular disease. Regular physical activity is required to medical evaluation, risk stratification, supervision, and education (Fletcher et al., 1996). According to WHO Global action plan for the prevention and control of non-communicable diseases 2013-2020, most of these premature deaths from non-communicable diseases are largely preventable by enabling health system is to respond more effectively and equitably to the heath-care needs of people with non-communicable diseases, and influencing public policies in sectors outside health that tackle shared risk factors which also include physical inactivity.

Non-communication diseases also known as chronic diseases are not passed from person to person. They are of long duration and generally slow progression. The four main types of

non-communicable diseases are cardiovascular diseases (like heart attack and stroke). Cancers, chronic respiratory diseases (such as chronic obstructed pulmonary disease and asthma) and diabetes. All age groups, both evidence shows that more than 9 million of all deaths attributes to non-communicable diseases occur before the age of 60. About 3.2 million of deaths annually can be attribute to insufficient physical activity. In term of attributable deaths, the leading NCD risk factors globally is elevated blood pressure (to which 16.5% of global deaths are attributed). NCDs threaten progress towards the UN Millennium Development Goals. Poverty is closely linked with NCDs. The rapid rise in NCDs is predicted to impede poverty reduction initiatives in low-income countries, particularly by forcing up household costs associated with health care. Vulnerable and socially disadvantaged people get sicker and die sooner than people of higher social positions, especially because they are at greater risk of being expose to harmful products, such as tobacco or unhealthy food and have limited Access to health services, World Health Organization (WHO facts on communicable diseases, 2013).

Worldwide, Lee et al (2012) estimated that physical inactivity causes 6-10% of the major non-communicable diseases of coronary heart disease, type 2 diabetes, and breast and colon cancers. Furthermore, this unhealthy behavior causes 9% of premature mortality, or more than 5.35 of the 57 million deaths in 2008. with elimination of physical inactivity, life expectancy of the world's population might be expected to increase by 0.68 years, they also stressed further by sayings, for perspective, other research done in the Unite State of America estimated that inactive people would gain 1.3-3.7 years from age 50 years by becoming active. In an Asian population, life expectancy from age 30 years in active people was 2.6-4.2 years greater than that in inactive people.

Xu et al. (2014) pooled an analysis of data from 4,550 urban Chinese adults and revealed that those with sufficient physical exercise had a significantly lower risk of developing type 2 diabetes than those with insufficient physical activity, and that those with normal blood pressure were significantly less likely to develop type 2 diabetes than their hypertension counterparts.

Chronic diseases are a serious threat to health and longevity in developing countries. In all but the poorest countries, the death and disability from chronic diseases now exceeds that from communicable diseases - comprising 49% compare with about 40% for communicable disease and 11% for injuries (Lopez, Mathers, Jamison, Murray and Ezzati, 2006). The dominance of chronic disease in developing countries is not well recognized among health experts and non-experts alike because these aliments are often less visible than communicable disease has overtaken the communicable disease burden in part because of success in reducing the latter-but tragically, also because poor countries are increasingly adopting the unhealthy lifestyles of the developed world (Rachel, 2008).

A longstanding assumption has been that chronic disease exist primarily in rich countries and that communicable diseases exist primarily in poor countries. This simple division is no longer true, Finland, Taiwan, and South Korea are example of relatively rich countries with low prevalence of the major chronic diseases. Canada and United Kingdom have higher death rates from chronic diseases than from communicable diseases; however, the chronic disease toll in those countries is still much lower than those prevailing in many poor countries, conversely, even very poor countries, such as India and Pakistan, and moderately poor countries, such as Russia and China, show higher death rates from chronic disease than communicable disease (WHO, 2005).

According to the WHO Annual Report (WHO 2002), it was estimated that in 2001, approximately 60% of the 56.6 million total reported deaths in the world and approximately 46% of the global burden of disease were attributable to chronic diseases and cardiovascular diseases (CVD) in particular. Although HIV/AIDS, malaria, TB, hemorrhagic hundred and other infectious diseases are predominant in Africa, Asia, and Latin America, deaths caused by chronic diseases dominate the mortality statistics in five out of six regions of WHO, and 79% of all deaths attributable to chronic diseases occur in developing countries and other NCDs are increasing all over the world (Lopez et al, 1996). Contrary to widely held belief, the problem is not limited to developed countries (Boutayeb, 2006), it constitutes a major concern for health authorities in developing countries (Alwan, 1997).

Exercise and diabetes mellitus

A well-controlled exercise state is generally believed to be beneficial: it increases glucose utilization and decreases insulin requirements. A training programme may increase high density lipoprotein (HDL), cholesterol levels and perhaps decrease some plasma lipoprotein moieties the more general effects of exercise related to improvement of working capacity and reduction of anxiety states. In a recent review, it was stressed that major advances were made with respect to acute effects of exercise in vivo (turnover and net balance methods, hormonal measurements) and in vitro (biochemical and histo-chemical methods). It was encouraging to learn that a training programme in middle-aged non-obese chemical diabetics may normalize oxidative capacity of their muscle and improve glucose tolerance (Vranic and Berger, 1979). Warburton et al. (2006) stressed further that exercise interventions are also effective in the management of type 2 diabetes. One prospective short study showed that walking at least 2 hours per week was associated with a reduction in the incidence of premature death of 39%-54% from any cause and 34%-53% from cardiovascular disease among patients with diabetes with significant reductions in all-cause mortality.

Regular exercise and mild hypertension

There is consistent evidence that regular rhythmic physical exercise of the lower extremities decreases both systolic and diabolic blood pressure by 5-7mm Hg, independent of weight loss, alcohol intake or salt intake. With an established criterion among 26 studies comprising 35 groups or interventions that measured the effects of physical training on blood pressure in a total of 486 patients with mild to moderate hypertension who were not taking any medication. Most of these studies measured blood pressure with the patient in a seated position; 5 of them also recorded ambulatory blood pressure (Cleroux et al., 1999), they also stressed further by saying physical exercise has been a component of interventions involving multiple lifestyle modifications to treat hypertension. Increased physical exercise, together with a reduction in caloric intake alone or in combination with a reduction in alcohol intake and with or without a reduction in sodium intake, reduces the relative risk of hypertension.

(Cleroux et al., 1999), stated further by saying, there is now excellent evidence that mild hypertension can be treated with moderate physical activity. The antihypertensive effect of

physical exercise does not depend on an increase in maximal aerobic capacity, but does correlate with the initial level of activity. The lower the initial level of activity. The greater the expected reduction in blood pressure associated with a given increase in physical activity. This statement in physical activity and blood pressure agrees with the more general US recommendation on physical activity and Public Health.

Benefits of exercise as stated by (Fletcher et al., 1996): Healthy persons as well as many persons with cardiovascular disease, including those with heart failure, can improve exercise performance with training. This improvement is the result of increased ability to use oxygen to derive energy for work. Exercise training increases maximum ventilator oxygen uptake by increasing both maximum cardiac output (the volume of blood ejected by the heart per minute, which determines the amount of blood delivered to the exercising muscles) and the ability of muscles to extract and use oxygen from blood. Beneficial changes in hydrodynamic, hormonal, metabolic, neurological, and respiratory function also occur with increased exercise capacity. These changes can also benefits persons with impaired left ventricular function, in whom most adaptations to exercise training appear to be peripheral and may occur with low-intensity exercise.

Exercise training results in decreased myocardial oxygen demands for the same level of external work performed, as demonstrated by a decrease in the product of heart rate systolic arterial blood pressure (an index of myocardial oxygen demand). These changes are also beneficial in person with coronary artery disease, who after exercise training may attain a higher level of physical work before reaching the level of myocardial oxygen requirement that result in myocardial is chemise. Exercise training favorably alters lipid and carbohydrate metabolism. The exercise-induced increase in high-density lipoproteins is strongly associated with changes in body weight, and greater increases in high-density lipoproteins have been found in women who exercise at higher levels of recreational running. Regular exercise in overweight women and men enhances the beneficial effect of a low-saturated fat and low-cholesterol diet on blood lipoprotein levels. Endurance training has effects on adipose tissue distribution, and the effect on adipose tissue distribution is likely to be important in reducing cardiovascular risk. Exercise training also as an important effect on insulin sensitivity, and

intense endurance training has a highly significant salutary effect on fibrinogen levels of healthy older men. In addition, recent data support the role of physical activity in the prevention and treatment of osteoporosis and certain neoplastic diseases, notably colon cancer (Bernard et al, 1977).

Generally, participants engaging in regular physical activity display more desirable health outcomes across a variety of physical conditions, similarly participants in randomized clinical trials of physical-activity interventions show better health outcomes, including better general and health-related quality of life, better functional capacity and better mood states, (Penedo and Dahn, 2005). in addition, (Aweto et al, 2013), stated that a physically active lifestyle has been shown to significantly reduce the risk of developing cardiovascular disease, obesity, type 2 diabetes mellitus, several forms of cancer and depression, strengthen bones and muscles, stabilize mental health and mood, increases one's ability to perform daily activities and prevent falls. Regular physical activity decreases all-cause mortality risk by 20% to 30% compared with insufficient activity.

2.3 Perception about physical exercise among food stuff sellers

According to Cambridge dictionary, perception is defined as a belief or opinion often held by many people and based on how things seem. Perception could also refer to one's ideas or judgments concerning a specific behaviour. Theory and research in social psychology imply that perception predict behaviour. The adoption of an active lifestyle is often associated with positive perception/attitude towards exercise. Thereby, the formation of a positive perception toward exercise is important, taking into consideration the fact that regular exercise has been shown to be beneficial for public health (Digelidis, Papaioannou, Laparidis, and Christodoulidis, 2003). An attitude is a hypothetical construct that represents an individual's degree of like or dislike for an object or item. Perception are generally positive or negative views of a person about a place thing or event (Donatus et. al. 2012). Individuals' lifestyle or health habits and behaviours constitute what a person does and what he/she fails to do, ranging from inactivity, smoking, overacting, alcoholism, drug abuse and engaging in unprotected sexual relationships (Mayoclinic 1999).

Sun, Yu, So, Lam, and Hau, (2004), found out in a study that the overweight children had a significantly lower self-perception of their physical competences than normal weight children specifically of their appearance, body fatness, sports competence, endurance, coordination, flexibility and general physical self-concept, as well as to a smaller extent, their local self-esteem, without feeling significantly disadvantaged in their general health, levels of physical activity or strength. Notably, they perceive themselves to be significantly stronger. The finding that overweight children did not perceive themselves to be less healthy despite generally low self-perception of physical competences, suggests that impaired sports performance at this age does not extend to awareness of its risks to long-term health, or of concurrent medical and psycho-social problems (Goran and Gower, 1999). Atlantis et al. (2007) proved that overweight and particularly obesity are associated with lower prevalence of sufficient physical activity for health benefits, but any of these differences are weakened by acceptable weight perception. Overweight perception may be another barrier to physical activity participation among men and women with excess body weight. In a sample of young British adults, it was found that males were significantly more likely to be in the action or maintenance compared with their female counterparts, (Wallece, Buckworth, Kirby, and Sherman, 2000).

The relationship between exercise self-efficacy and participation in physical exercise has been well documented; individuals with low perceived confidence in their ability to participate in physical activity (I.e. exercise self-efficacy) are less likely to participate in physical activity than individuals who have greater exercise self-efficacy. Therefore, exercise self-efficacy appears to be critical variable for exercise behaviour regardless of population (Wallace et al., 2000)

Most young children have a very positive perception of physical exercise. However, as they grow older, their perception of physical exercise as a positive experience seems to become more ambiguous. From the few studies available, it seems likely that quality physical exercise programmes help to maintain initial positive perceptions. (Trudeau and Shephard, 2005),

Cilliers, Senekal, and Kunneke (2006) ascertained that underweight, normal weight and overweight adolescents differed significantly with regard to their perception of their weight,

their weight goals and their previous weight loss practices. Underweight adolescents mostly perceived their weight as normal, were satisfied with their weight and had not tried to lose weight previously, although almost a third still wanted to lose 1-3 kg. Although, two-thirds of normal weight students perceived their normal weight as normal, most wanted to lose weight and had tried to lose weight previously. Over weight students were significantly more inclined to be realistic about their perception of their weight and their weight goals. They also explained further that their results indicate that female students do not have a realistic perception of their weight, with perceived weight being higher than actual weight.

In traditional Nigerian society, house-helps or housemaids are mostly girls and women because of the expected domestic assistance and up-keep of the home. Young girls and women receive scolding and discouragement from parents and older members of the society for participating in physical exercise with the cultural belief that it has negative effects on their reproductive system (Elendu et al., 2013).

2.4 Practice of physical exercise among food stuff sellers

Regular exercise of three to four times a week for a minimum of 30 minutes each session helps people to stay fit and healthy (CDCP, 2003).Exercising skeletal muscle utilize glucose without insulin and glucose will be burned (Weil, 2015). Practicing exercise helps to lower blood glucose level so that people have lower risk of getting diabetes mellitus.

The World Health Organization recommends that adults between 18-65 years old should do at least 150 minutes of moderate-intensity aerobic physical activity throughout the week, or engage in 75 minutes of vigorous-intensity aerobic activity (WHO 2010). However, many people do not meet up to recommended guideline for physical exercise.

In a cross-sectional survey conducted among a representative sample of 934 adults (age 20–82 years) living in metropolitan Maiduguri, Nigeria. Physical activity was measured using the validated Nigerian version of the International Physical Activity Questionnaire (IPAQ). Using the World Health Organization (WHO) guideline, participants were classified as sufficiently active or insufficiently active. Only 68.6% of their respondents were sufficiently active and engage in physical exercise (Oyeyemi et al., 2013).

According to the study conducted on the knowledge and Practice of physical exercise among inhabitants of Bangkok, One thousand one hundred and seven people aged ranging from 18-81 years old were recruited. Only six hundred and forty people (58.4%) exercised regularly and reported to perform 1-2 days per week with varied duration. They performed exercises alone, in their homes, in the evening. They did not report any expenditure on the exercises. Common types of exercise reported were walking, jogging, attending an aerobic exercise class, using an exercise machine, and callisthenic exercise. Two hundred and seven people (18.9%) did not perform exercise at all because of the lack of time. The factors correlated with regular exercise were the increasing age, the high level of education, the amount of free time per day, and the enjoyment of exercise. (Dajpratham et al, 2007)

2.5 Factors influencing the practice of physical exercise among food stuff sellers

A large proportion of adults in the western cultures are physically inactive, despite several decades of warnings about the potentially negative health consequences of a sedentary lifestyle. Efforts to promote physical activity have focused on identifying its determinants and designing interventions that might effectively promote regular physical activity. The multitude of factors that induce adults to initiate and maintain programmeme physical activity have been divided in to those that are invariable (age, gender, race, ethnicity) and those that are presumed to be modifiable (behavioral and personality characteristics, environmental circumstances and community settings). The lack of consistency in the design, analysis and reporting of intervention in the lives of inactive or sedentary individual has produced equivocal results. However, several social and environmental factors have systematically emerged as determinants of physical activity in adults, (Seefeldt, Malina and Clark, 2002). The internal motivations for exercise participation amongst older people include the health, social, mental and emotional benefits that help to maintain physical independence (Sport-England 2006). External motivation comes from the media, doctors, partners, friends and/or family. The most common barriers to exercise are costs, lack of time, and physical limitations. Other limiting factors included cultural 'norms', language barriers and the need for clothing that may be deemed inappropriate (Sport-England 2006). Older people felt that the best way to increase participation would be to keep costs low, make sessions enjoyable, be reassured

about the safety of activities and the opportunities to be physically active could be better advertised (raise awareness of local exercise classes) (Sport-England, 2006).

Aarts et al, (1997), stated that; there are many obstacles to the development of exercise habits. First, the person may not know which type of exercise behavior promotes health or that a sedentary lifestyle will have negative effects for health in the long term. Therefore, individuals may not be motivated to start any type of health enhancing exercise behaviour.

Second, despite health beliefs the person may never decide to attempt a certain activity, because it seems not desirable enough. This suggests that the initiation of exercise behavior does not merely rely on having knowledge about the relationship between exercise and health. In addition, individuals will also base their decision to exercise on other, non-health related consequences.

Third, after trying the behavior and learning about its consequences and/or its difficulty, the person may decide to quit the action. This may be because the expected outcomes of the chosen types of exercise are not immediately obtained, basically because they are only visible in the long term (a problem related to many health behaviours). Also, when performing the behaviour, persons may encounter unanticipated negative consequences. On the other hand, individuals may have created personal goals that are rather difficult task for untrained persons than running 10km (notice that both types of activities can be done in 30 min). Therefore, individuals should be encouraged to choose a type of exercise behaviour that leads to immediate satisfactory experiences and can be executed within the boundaries of their personal capabilities. In other words, in order to develop exercise habits, focusing on both proximal outcomes and goals is more effective than directing attention to distal ones.

Fourth, the possibility to carry out the same behaviour any next time constitutes an important link in the chain of repeated exercise behaviour and the development of a habit. For example time constraints and lack of facilities have been found to be the main reason why individuals do not maintain an exercise programme (Dishman, 1991).

Tappe, Duda, and Ehrnwald, (1989) highlighted that major barriers to exercise were "time constraints" "unsuitable weather," "school and schoolwork," and "lack of interest or desire". An individual is more likely to participate in regular exercise if he/she enjoys the physical activity; believes that time can be found for exercise; believes that there are relatively few barriers to getting regular exercise; believes that benefits of exercise outweigh the costs; has friends or family members who exercise and support or both his or her getting exercise; feels safe exercising outdoor, near home or work; and has access to an attractive and convenient exercise space near home or work (Elendu et. al., 2013).

Therefore, the degree of (internal and external) control over the behaviour is an important element in the process of habit formation and its livelihood (Prochaska, 1994). This suggests that relatively simple exercise behaviours (e.g walking, cycling) may more easily become habitual than behaviours that are rather complex (e.g. attending an organized fitness programme), because the latter behaviours are most subjected to facilities, and probably need more intentional effort and planning to occur.

Garcia et al. (1995) also confirmed that compared to males, females reported less prior and current exercise, lower self-esteem, poorer health status, and lower exercise self-schema. Adolescents, in contrast to pre-adolescents, reported less social support for exercise and fewer exercise role models. In a path model, gender, the benefits/barriers differential, and access exercise facilities and programmes directly predicted exercise.

The environment in which older people live also plays an important role in promoting or inhibiting physical activity. Most work on this complex relationship between physical activity and the environment has excluded people with reduces physical function or ignored the difference between groups with different levels of physical function (Gong et al., 2014), they stressed further that a certain level of physical functional capacity is required to participate in physical activity. As people get older, physical functional capacity declines and people experience a shrinking of their activity spaces and participation in physical activity. In other words, older adults tend to rely more heavily on their local environment for day-to-day activities. Older people with poorer health are found to participate in less physical activities.

Walking, as an example, is the most common form of physical activity among adults. But difficulty in walking is commonly observed within older populations.

Neighbourhoods' with signs of physical disorder (e.g. vandalism) and social disorder (e.g., loitering, drug use) may discourage individuals from engaging in outdoor activities. Concerns for neighbourhood safety may be reported more frequently for girls than boys. Our study found that agreeing it was safe to walk or jog in the neighborhood was associated with higher levels of physical activity, (Evenson et al., 2006). Inconvenience, inaccessible programme locations, work conflicted, lack of time and energy, and medical problems can hinder long-term participation in physical activity (Elendu et. al, 2013). Unfavorable and non-supportive sports environment affects exercise and sports adherence and performance of sports participants.

Promoting physical exercise is a public health priority, and changes in the environmental contexts of adults' activity choices are believed to be crucial. However, some of the factors associated with physical activity, environment influences are among the least understood, (Humpel, Owen, and Leslie, 2002).

2.6 CONCEPTUAL FRAMEWORK: THE PRECEDE MODEL

The PRECEDE model provides a comprehensive structure for assessing health needs for designing, implementing and evaluating health promotion and other public health programmes to meet these needs. This model provides the structure for planning a targeted and focused public health programme on physical exercise.

Predisposing Factors

These are factors which motivate or provide a reason for one's behaviour. These include characteristics such as level of knowledge, socio-demographic characteristics (e.g educational status, sex) and perception towards physical exercise.

Enabling Factor

These are factors that enable people to act on their predisposition. These factors include available resources and accessibility to facilities

Reinforcing Factors

These factor encourages repetition and persistent practice of the behaviour after it has been initiated. These reinforcing factors include influence of significant others such as friends, family, peer groups, media and social support.

Environmental Factor

These are factors which play a moderating role in the relationship between intention and behaviour.

2.1 PRECEDE MODEL

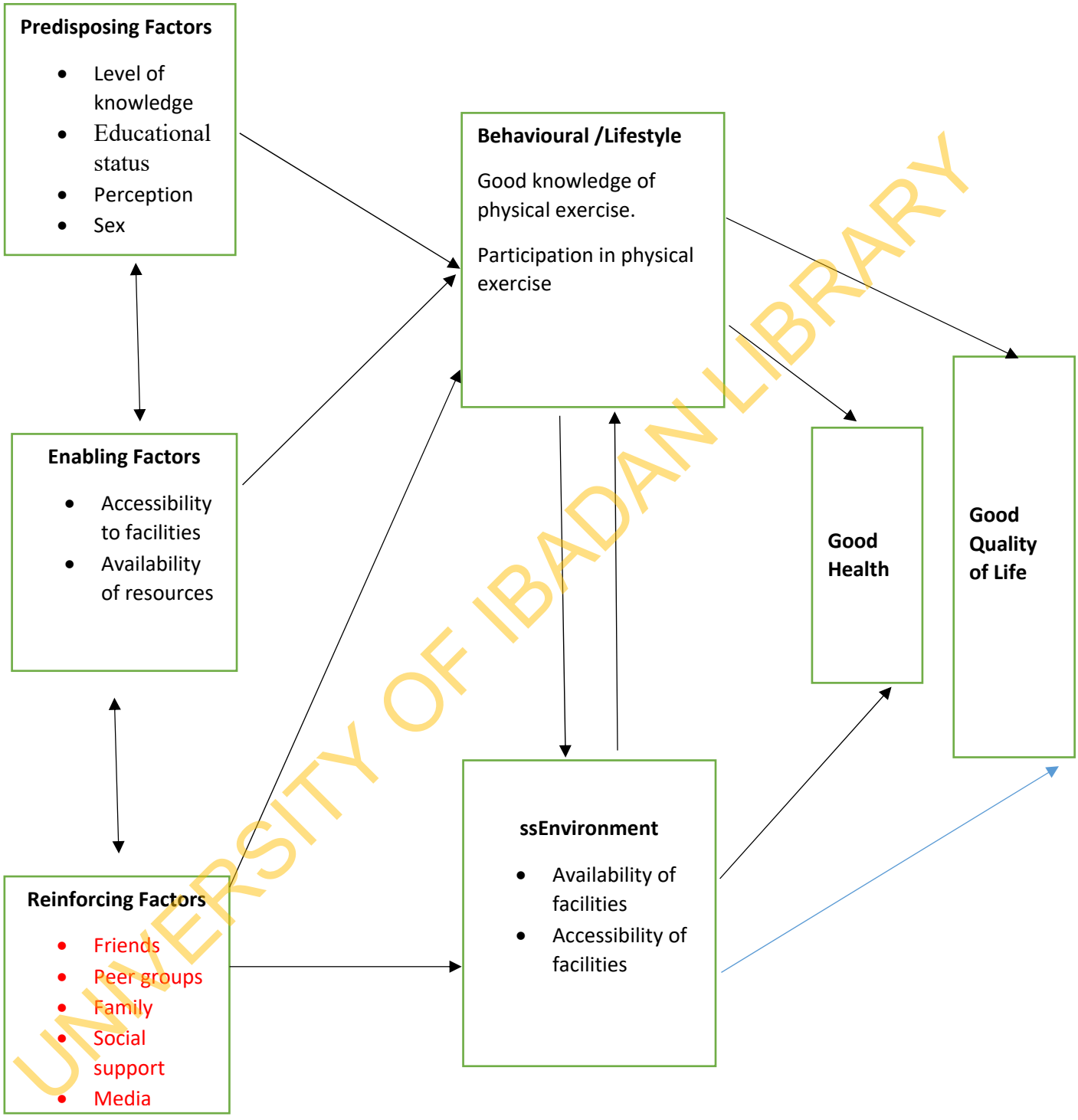

FIGURE 2.1: PRECEDE model illustrating the factors that influence the practice of physical exercise.

CHAPTER THREE

METHODOLOGY

3.1 Study Design

This study utilised a descriptive cross-sectional design which involved the use of quantitative methods to obtain information on the knowledge, perception and practices of physical exercises among foodstuff sellers in Bodija market, Ibadan, Oyo State.

3.2 Description of study area

Bodija market is one of the eight major markets in Ibadan metropolis. The other major markets are; Sabongeri, Gate, Alesinloye, Oje, Sango, Dugbe and Basorun markets. Bodija Market is the largest market in Ibadan. The market is situated along Secretariat-University of Ibadan road. The market is bounded by Agbowo in the North and by Bodija Estate in the West. The location of the market has a lot of advantages; for instance, the market is accessible to market men and women who bring their produce from Saki, Oyo and from the Northern parts of Nigeria. The market is unique because it is well laid out and has facilities for easy movement. (Kolawole et al, 2009).

The design of the market is such that each produce such as pepper, oil, beans, rice and yam has its own rows of stalls. The market is a mixture of open spaces for trading as well as wooden and concrete stalls. A lot of wholesalers have concrete stalls while retailers own most of the open space kiosks and trading locations (Ifaloju, 2007). The market was established in October 1987 to address the challenges associated with the growth and overcrowding at the Orita Merin food stuff market in Ibadan. The location of the market is close to the Oyo-Ogbomoso-Ilorin interstate road network. This allows farm produce from Northern Nigeria and the Northern part of Oyo state easier access to transport their produce to the market.

The market operates every day of the week till late in the night and people come from far and near to purchase goods and services. Amazingly, there is no foodstuff that will not be found in this market in due season.

This study site (Bodija market) was selected based on the identified sedentary lifestyle of most market men and women. Majority of the traders are always found sitting down throughout the entire day and consume a large amount of calories without engaging in physical exercise.

3.3 Study population and Target population

Study population

The study population were market traders in Bodija market

Target population

The target population for this study included men and women who sell food stuffs in Bodija market

3.4 Inclusion and Exclusion Criteria

Inclusion Criteria

Only men and women who sell raw food stuffs such as rice, beans, fish, yam, garri, tomato, pepper and soup condiments in the market who gave consent were included in the study

Exclusion Criteria

Men and women who sell provisions, plastics, textiles and those who did not give consent were excluded from the study.

3.5 Sample size determination

The sample size will be determined using Leslie Kish formula;

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

Where n = minimum sample size required, z = standard normal deviation at 95% confidence level (1.96),

$Z^2 = 1.96^2 = 3.8416$

p= previous prevalence of 30.6%. (Adeniyi, Omoyemi, Adewunmi 2016).

P = 0.524, q= 1- P, 1-0.524 = 0.476

d = level of precision at 5% (0.05%), $d^2 = 0.05^2 = 0.0025$

Therefore, $n = \frac{1.96^2 \times 0.524 \times 0.426}{0.05^2}$

$= 383.25 = 383$ samples

3.6 Sampling Technique

The activities that lead to the selection of the eligible respondents is as follows:

Stage 1: Cluster sampling method was used to divide the population into separate groups called clusters. Simple random technique was used to select some clusters (pepper sellers; yam/tuber sellers; garri sellers; and grain sellers) from the population.

Stage 2: The secretary of each occupational grouping was visited to document the membership strength of each group (i.e the number of persons who registered as members) and the total number of food stuff sellers was obtained as 3,470

Stage 3: Proportionate allocation was used to determine the number of respondents to be studied in each of the four groups.

Stage 4: Simple random sampling was used to select the respondents to be interviewed from each group.

The membership strength of the food stuff sellers is shown below:

- Yam- 800
- Beans- 700
- Rice- 400
- Garri- 170
- Tomato & Pepper- 400
- Fish & Meat - 300
- Soup Ingredients- 700

Calculated Proportionate Allocation **N=383**

Food Stuff	Membership Strength	Proportionate Allocation
Yam	800	83
Beans	700	77
Rice	400	44
Garri	170	19
Tomato & Pepper	400	44
Fish & Meat	300	34
Soup ingredient	700	77

3.7 instrument for Data Collection

The instrument that was used in this study was a semi structured questionnaire which included both opened and closed-ended questions to investigate the knowledge, perception and practices of physical exercise among food stuff sellers in Bodija market. The instrument was developed based on the set objectives, reviewing literatures and guidance of my research supervisor.

The instrument contained 6 sections which was labeled A-F. Section A contained questions on socio-demographic characteristics. Section B focused on respondents' knowledge of physical exercise. Questions on perception of physical exercise was contained in section C while questions relating to practices was assigned to section D, section E contained questions on factors influencing practices of physical exercises and lastly, section F comprised of questions on willingness of respondents to be participating in physical exercise (see appendix for details about the questionnaire).

3.8 Validity of Instrument

The validity of the instrument was ensured by extensively reviewing relevant literatures. The questions were formulated based on themes from the research objectives and the instrument was designed in line with the variables from the conceptual framework. Also, my project supervisor was consulted on how the instrument should be designed, subsequent corrections

and observations were used to improve the tool. Appropriate adjustment and review from my supervisor was conducted before administering the questionnaire.

3.9 Reliability of Instrument

10% of the total sample size (i.e. 10% of 383 respondents) which amounted to 38 respondents was pretested at among a similar population at Oje market. A Cronbach Alpha measurement and reliability co-efficient measure was carried out on the pre-test questionnaire to know how reliable the instrument is. A co-efficient of 0.78 was obtained, hence the instrument was considered reliable.

3.10 Data Collection Process

Four Research Assistants (RAs) were recruited and trained to facilitate the conduct of the study. The RAs were persons who were fluent in English and Yoruba languages. The data collection was facilitated by the use of an interviewer-administered questionnaire. These research assistants were accustomed with the purpose of the study and trained on proper ethical conduct in dealing with respondents.

3.11 Data Management and Analysis

All the administered copies of the questionnaire were checked for completeness, cleaned, coded and entered into the computer. Serial number was written on each copy of the questionnaire for easy identification of any copy with errors for correction. A coding guide was developed and open-ended questions were coded and entered into the computer. The data entered into the computer was analysed using descriptive statistics (such as mean, median, mode and percentage) and inferential statistics such as Chi-square, Fisher's Exact Test. The results obtained from the Statistical Package for Social Science (SPSS version 20) analysis was summarised and presented in tables and charts.

Respondents' knowledge of physical exercise was measured on a 23-point scale and it was categorised as: ≤7 (Poor), >7-16 (Fair) and >16 (Good). Respondents' perception of physical exercise was measured on a 9-point scale and it was categorised as ≤4 (negative perception) and scores >4-9 (positive perception). Respondents' practice of physical exercise was

measured on a 12-point scale and it was categorised as: ≤5 point (poor practice), scores > 5-12 point (good practice).

3.12 Ethical Consideration

The proposal for this study was submitted to the Oyo State Ethical Review Committee (Our Ref No. AD 13/479/1503) for review and approval (see appendix for details). In order to ensure confidentiality of data, participants' names and other identifiers were not written on the questionnaires. All copies of the questionnaires were kept in a safe place where unauthorized persons cannot have access to them.

The informed consent form for this study was translated to the local language (Yoruba) to enable the respondents have a full knowledge of the study before deciding whether they would like to be involved in the study or not.

***3.12.1 Beneficence to Participants*:** The respondents were informed that there will be no immediate or direct benefits to individual participants but findings from the study will be useful for making decisions and initiate measures for improving physical exercise among the traders.

***3.12.2 Non-maleficence to Participants*:** The respondents were informed that the research would pose no harmful effect to them except for the inconveniences and the time taken to answer questions from then questionnaire.

CHAPTER FOUR

RESULTS

4.1 Respondents' Socio-Demographic Characteristics

A total of 383 food stuff sellers were interviewed. The result revealed that many (59.5%) of the respondents' were females while the males constituted (40.5%) in the study. Most (89.6%) of the respondents were Yoruba, this is could be attributed to the study location, while ethnic groups such as Igbo and Hausa were 7.0% and 1.3% respectively. Respondents' mean age was obtained as 39.5±13.4, some (49.6%) of the respondents were between the ages of 21-40 years, while others (35.6%) were between 41-60 years and respondents above 61 years were 7.0%.

Majority (70.2%) of the respondents were married and few (23.2%) of the respondents were single. The major religion of the respondents was Islam (58.2%). Many (50.9%) of the respondents completed secondary school education while few (21.7% and 8.1%) of the respondents had tertiary education and non-formal education respectively. (Results are shown in table 4.1).

Table 4.1: Respondents' socio-demographic characteristics (N=383)

Characteristics	Frequency	Percent (%)
Sex		
Male	155	40.5
Female	228	59.5
Ethnicity		
Igbo	27	7.0
Yoruba	343	89.6
Hausa	5	1.3
Others*	8	2.1
Age in years (As at last Birthday)		
<20	30	7.8
21-40	190	49.6
41-60	136	35.6
>61	27	7.0
Marital Status		
Single	89	23.3
Married	269	70.2
Widowed	23	6.0
Divorced	2	0.5
Religion		
Christianity	157	41.0
Islam	223	58.2
Traditional	3	0.8
Educational Status		
Non Formal Education	31	8.1
Primary	74	19.3
Secondary	195	50.9
Tertiary	83	21.7

*Edo, Urhobo.

4.2 Respondents' knowledge of physical exercise

Few (27.4%) of the respondents reported that physical exercise is not the same as physical activity while majority (72.6%) of the respondents did not know that physical exercise is not the same thing as physical activity. The respondents were made to mention at least three physical exercises they know; jogging, running and playing of football were the most mentioned exercises in the proportion of 44.6%, 36.8% and 42.8% respectively. (See table 4.2 for details).

Mean knowledge score obtained by respondents was 13.2±3.2. Most (89.0% and 96.1%) of the respondents correctly reported that physical exercise could help to prevent diseases and that physical exercise could make someone healthier respectively. Most (94.8%) of the respondents answered correctly that physical exercise gives an individual good shape. Most (90.1%) of the respondents also rightly answered that physical exercise could make people sleep better.

Most of the respondents (85.6%) correctly answered that physical exercise can improve the ability of an individual's body to fight diseases and most of the respondents (87.7%) also rightly reported that participation in physical exercise would not lead to diseases. Majority (76.2%) of the respondents correctly answered that physical exercise could be used to treat some diseases (see table 4.2 for more details).

Some health conditions such as heart disease, type 2 diabetes, obesity and hypertension were listed and respondents were made to choose if these health conditions could be caused by not taking part in physical exercise. Majority (60.6%) of the respondents' reported correctly that some type of heart diseases could be caused by not taking part in physical exercises. Some of the respondents (47.5%) correctly responded that type 2 diabetes could be caused by not taking part in physical exercise. Majority of the respondents (78.1%) stated rightly that obesity can be could by not taking part in physical exercise. Many of the respondents (57.4%) rightly indicated that hypertension could be caused by not taking part in physical exercise. (See table 4.2 for more details).

Many (55.9%) of the respondents also identified that physical exercise can be used to treat heart disease, while majority (76.0%) of the respondents' reported that physical exercise could be used to treat or control obesity. (See table 4.2 for further details).

Table 4.2a: Respondents' knowledge of physical exercise (N=383)

Variables	Frequency	Percent (%)
Physical exercise is the same thing as physical activity		
True	278	72.6
False	105	27.4
Name three physical exercises that you know (jogging)		
Yes	171	44.6
No	212	55.4
Running		
Yes	141	36.8
No	242	63.2
Playing football		
Yes	164	42.8
No	219	57.2
Others*		
Yes	283	73.9
No	100	26.1

Table 4.2b: Respondents' knowledge of physical exercise **(N=383)**

Variables	True (%)	False (%)	I don't know (%)
Physical exercises can help to prevent some diseases	341 (89.0)	26 (6.8)	16 (4.2)
Physical exercise can make someone healthier	368 (96.1)	11 (2.9)	4 (1.0)
Physical exercise gives an individual good body shape	363 (94.8)	13 (3.4)	7 (1.8)
Physical exercise can make people sleep better	345 (90.1)	27 (7.0)	11 (2.9)
Physical exercise can improve the ability of an individual's body to fight diseases	328 (85.6)	32 (8.4)	23 (6.0)
Participation in physical exercise can lead to diseases	30 (7.8)	336 (87.7)	17 (4.5)
Physical exercise can be used to treat or control some diseases	292 (76.2)	55 (14.4)	36 (9.4)
Some Heart Disease	232 (60.6)	113 (29.5)	38 (9.9)
Type 2 Diabetes	182 (47.5)	146 (38.1)	55 (14.4)
Obesity	299 (78.0)	65 (17.0)	19 (5.0)
Hypertension	220 (57.4)	121 (31.6)	42 (11.0)
Malaria	169 (44.1)	178 (46.5)	36 (9.6)
Stroke	225 (58.7)	110 (28.7)	48 (12.6)
Some Heart Disease	214 (55.9)	123 (32.1)	46 (12.0)
Type 2 Diabetes	176 (46.0)	142 (37.0)	65 (17.0)
Obesity	291 (76.0)	65 (17.0)	27 (7.0)
Hypertension	193 (50.4)	141 (36.8)	49 (12.8)
Malaria	170 (44.4)	180 (47.0)	33 (8.6)
Stroke	208 (54.3)	126 (32.9)	49 (12.8)

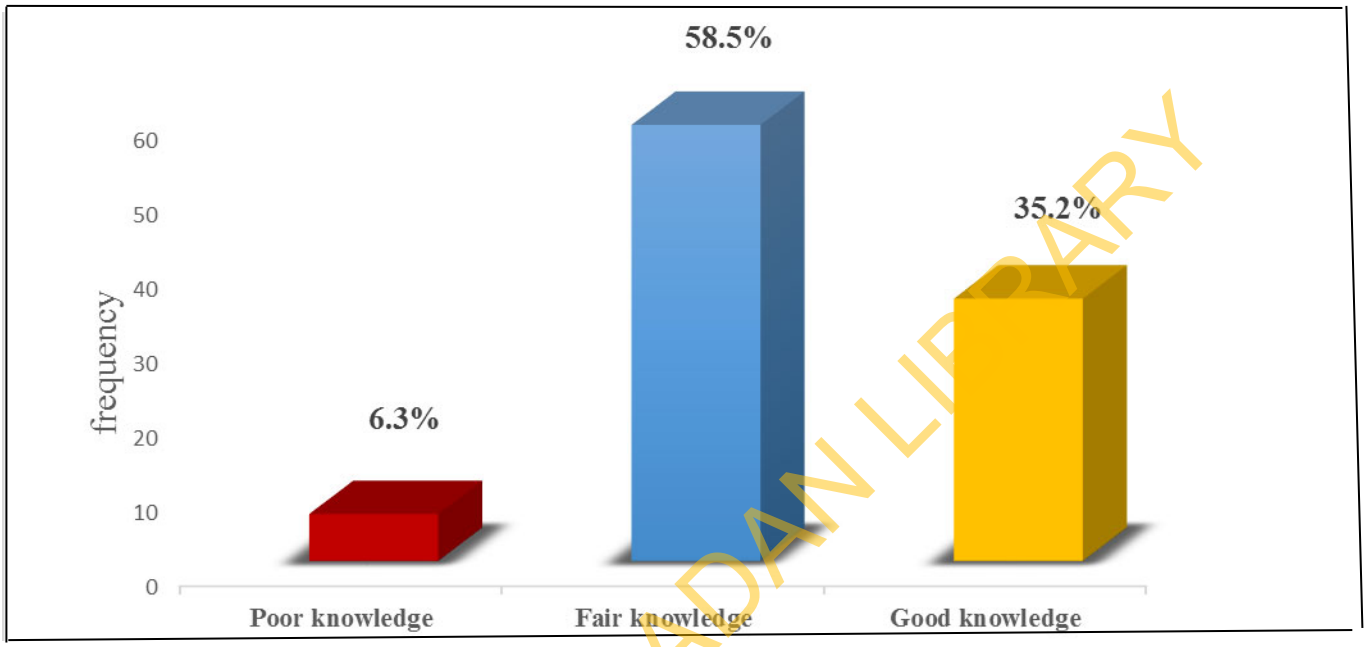

Figure 1: Respondents' knowledge of physical exercise

4.3 Respondents' perception of physical exercise

Table 4.3 presents respondents perception of physical exercise. Proportion of respondents' level of perception on physical exercise was as follow: Most of the respondents (87.2%) disagreed that physical exercise is mainly for athletes and most (96.9%) of the respondents disagreed that people who regularly did physical exercise are unserious.

Respondents mean perception score was 6.9±1.8 and the result of the study showed that (88.5%) of the respondents had good perception. Most (88.3%) of the respondents also disagreed that physical exercise is time wasting while few (23.5%) of the respondents agreed that they do not take part in physical exercise because they do not have the interest. Some (49.1%) of the respondents agreed that it is not always convenient to participate in physical exercise while (48.8%) of respondents disagreed that it is not always convenient to participate in physical exercise. Most (82.2%) of the respondents' disagreed that physical exercise is needed mainly by people who are overweight while most (84.1%) of the respondents' also disagreed that physical exercise are only done in special places. Many (50.1%) of the respondents' agreed that the running around they do is more than physical exercise and do not need a specific time for it while some (47.8%) of the respondents disagreed that the running around they do is more than physical exercise and do not need specific time for it.

Table 4.3a: Respondents' perception of physical exercise (383)

(N=383)

Statements	Agree (%)	Disagree (%)	Undecided (%)
Physical exercise is mainly for athlete. I am not an athlete	44(11.5)	334(87.2)	5(1.3)
People who regularly do physical exercises are unserious	7(1.8)	371(96.9)	5(1.3)
Physical exercise is time wasting	39(10.2)	338(88.4)	6(1.4)
I don't take part in physical exercise because I do not have the interest	90(23.5)	281(73.4)	12(3.1)
It is not always convenient to participate in physical exercise	188(49.1)	187(48.8)	8(2.1)
Physical exercise is needed mainly by people who are overweight	62(16.2)	315(82.2)	6(1.6)
Physical exercises are only done in special places	50(13.0)	322(84.1)	11(2.9)
The running around I do is more than physical exercise; no need for a specific time for it	192(50.1)	183(47.8)	8(2.1)
Physical exercise is mainly for young people in school	35(9.1)	340(88.8)	8(2.1)

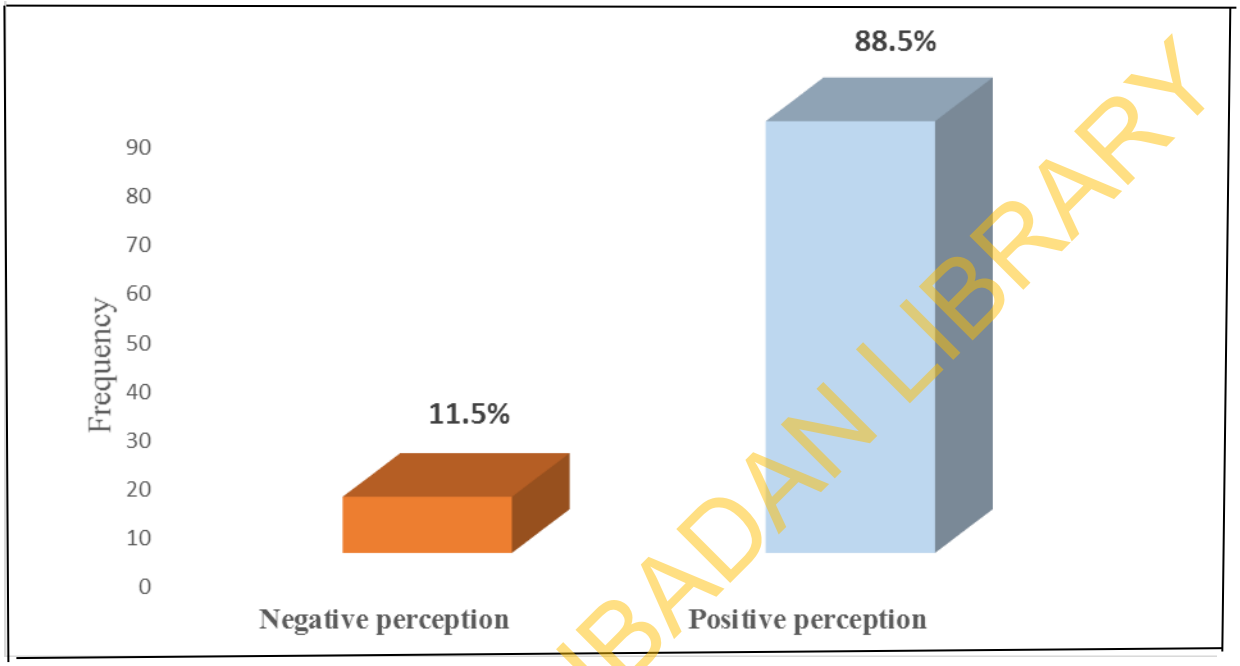

Figure 2: Respondents perception of physical exercise

4.4 Respondents' practice of physical exercise

Majority of the respondents (68.1%) reported to have participated in some exercise before, while some of the respondents (31.9%) had never participated in any form of physical exercise before. Majority (62.8%) of the respondents reported that they had engaged in physical exercise in the past one week and 37.2% of the respondents had not exercised in more than one week. Some (36.0%) of the respondents only exercise 1-2 times a week while few (21.8%) of the respondents exercise for at least 3-5 times. Few (11.1%) of the respondents' exercise for <15 minutes on each occasion while majority (88.9%) of the respondents exercise for more than 15 minutes on each occasion.

Mean practice score obtained by the respondents was 9.6±2.1. Majority (79.9%) of the respondents reported that they engage in brisk walking while many of the respondents (53.3%) engaged in dancing as a form of physical exercise. Many of the respondents (51.7%) indicated jogging as a form of physical exercise they engaged in (See table 4.4 for more details).

Table 4.4 shows that 39.5% of the respondents engage in climbing stairs as a form of physical exercise while some(45.2%) of the respondents indicated that they were involved in carrying heavy loads as a form of physical exercise.

Table 4.4a: Respondents' practices of physical exercise.		(N=383)
Variables	**Frequency**	**Percent (%)**
Have you ever participated in any physical exercises?		
Yes	261	68.1
No	122	31.9
If yes, when was the last time		
<1week ago	136	52.1
1week ago	28	10.7
>1week ago	97	37.2
How many times do you exercise in a week		
1 – 2 times	94	36.0
3 – 5 times	57	21.8
6 – 7 times	110	42.1
For how long (in mins) do you exercise on each occasion?		
<15mins	29	11.1
15 mins and above	232	88.9
Brisk walking		
Yes	206	79.9
No	55	21.1
Dancing		
Yes	139	53.3
No	122	46.7
Climbing stairs		
Yes	103	39.5
No	158	60.5
Carry heavy loads		
Yes	118	45.2
No	143	54.8
Running		
Yes	110	42.1
No	151	57.9
Playing football		
Yes	82	31.4
No	179	68.6
Jogging		
Yes	135	51.7
No	126	48.3
Any other thing done to exercise		
Yes	45	17.6
No	215	82.4

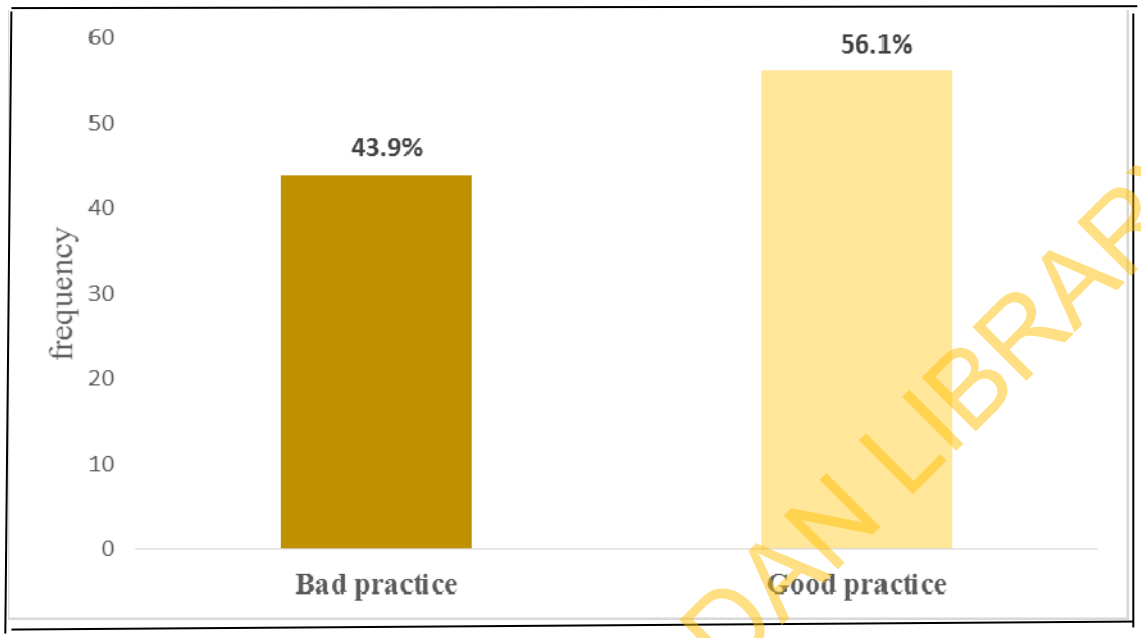

Figure 3: Respondents practice of physical exercise

4.5: Factors influencing the practice of physical exercise

Some (44.4%) of the respondents reported that lack of materials such as boots and special shoes are factors that influence them from practicing physical exercise while many (53.8%) of the respondents reported that special materials/facilities did not prevent them from exercising. Many (56.9%) of the respondents mentioned that it was difficult to combine regular physical exercise with food selling business. Majority (60.8%) of the respondents reported that lack of knowledge on the physical exercise to participate was not a factor responsible for not practicing exercise, while some (36.6%) of the respondents reported that they had lack of knowledge on physical exercise to participate in. Most (89.8%) the respondents reported that physical exercise is not only for males while majority (60.8%) of the respondents reported that lack of time was a factor that influences their practice of physical exercise and some (38.4%) of the respondents mentioned that lack of time did not influence their practice.

Many (56.4%) of the respondents mentioned that body pains after involvement in physical exercise does not influence their practice of exercise while 42.3% of the respondents reported that body pains after involvement in physical exercise is a factor that influences their practice of physical exercise. Majority (66.3%) of the respondents reported that lack of encouragement from people does not influence their practice while some (31.3%) of the respondents mentioned that lack of encouragement from people is a factor which influences their practice of physical exercise.

Table 4.5: Factors Influencing the practice of physical exercise (N=383)

Variables	Frequency	Percent (%)
Lack of materials/facilities needed to do physical exercise		
Yes	170	44.4
No	206	53.8
I don't know	7	1.8
It is difficult to combine regular physical exercise with food selling business		
Yes	218	56.9
No	158	41.3
I don't know	7	1.8
Lack of knowledge of physical exercise you can participate in		
Yes	140	36.6
No	233	60.8
I don't know	10	2.6
Physical exercise is mainly for males		
Yes	35	9.1
No	344	89.9
I don't know	4	1.0
Lack of time		
Yes	233	60.8
No	147	38.4
I don't know	3	. 8
Body pains that follow after involvement in physical exercise		
Yes	162	42.3
No	216	56.4
I don't know	5	1.3
Lack of encouragement from people		
Yes	120	31.3
No	254	66.4
I don't know	9	2.3

4.6: Willingness to be participating in physical exercise

For those currently exercising

Most (88.2%) of the respondents who practice physical exercise reported that they will want to continue exercising because they love it, makes their body light and prevents diseases. While few (11.8%) of the respondents mentioned that they will not want to continue exercising due to health challenges and age. (See table 4.6 for more details).

Table 4.6: For those currently exercising

(N=383)

Variable	Frequency	Percentage (%)
Will you want to continue exercising		
Yes	202	88.2
No	27	11.8
If Yes, what are your reasons		
I like exercise	18	8.9
makes body light	4	2.0
it prevents diseases	6	3.0
gives strength to the body	17	8.4
to keep fit	68	33.7
health benefit	77	38.1
Others	12	5.9
If No, what are your reasons		
no time	17	63.0
due to age	4	14.8
medical reason	6	22.2

4.7: For those not exercising

Many (51.4%) of the respondents who were not exercising mentioned that they would like to start exercising while some (48.6%) of the respondents reported that they would not want to start practicing exercise. Some (45.6%) of the respondents who reported that they would like to start exercising mentioned that they intend to start exercising on weekends while few (30%) of the respondents reported that they would like to set aside morning time for practicing exercise.

Some (46.7%) of the respondents of reported that they will be jogging to exercise, while few (4.4%) of the respondents mentioned that they intend to be engaging in brisk walking as a form of physical exercise.

Table 4.7: For those not exercising

Variable	Frequency	Percent (%)
Will you like to start exercising		
Yes	90	51.4
No	85	48.6
If you intend to start exercising, which period will you like to set aside for exercising		
Now	6	6.6
Morning	27	30.0
Weekend	41	45.6
Seasonal	2	2.2
Others	14	15.6
In future, what type of physical exercises will you want to be doing		
Jumping	7	7.8
Running	19	21.1
Jogging	42	46.7
brisk walking	4	4.4
Others	18	20.0

4.8 TEST OF HYPOTHESES

Hypotheses 1: There is no significant difference between the socio-demographic characteristics (sex, age, socio-economic level and level of education) of the respondents and their level of knowledge of physical exercise.

Table 4.8 presents results on the statistical difference between socio-demographics and level of knowledge of physical exercise.

Fisher's Exact Test revealed that there was no significant difference between the level of knowledge of physical exercise and socio-demographic characteristics with a p-value of > 0.05. Therefore, we fail to reject the null hypothesis that there is no significant difference in respondents' level of knowledge and socio-demographic characteristics.

Table 4.8: Fisher's Exact Analysis Showing the Difference between Socio-Demographics Characteristics and Level of Knowledge of Physical Exercise

Demographics	Level of Knowledge			Df	F	P-value
	Poor	Fair	Good			
	(%)	(%)	(%)			
Sex						
Male	7 (1.8)	94 (24.5)	54 (14.1)	**2**	1.493	0.465
Female	17 (4.4)	130 (33.9)	81 (21.1)			
Ethnicity						
Igbo	1 (0.3)	17 (4.4)	9 (2.3)	6	1.035	0.985**
Yoruba	23 (6.0)	198 (51.7)	122(31.9)			
Hausa	0 (0.0)	4 (1.0)	1 (0.3)			
Others	0 (0.0)	5 (1.3)	3 (0.8)			
Age						
<20	1 (0.3)	24 (6.3)	5 (1.3)	6	8.061	0.209**
21-40	13 (3.4)	107 (27.9)	70 (18.3)			
41-60	7 (1.8)	77 (20.1)	52 (13.6)			
>61	3 (0.8)	16 (4.2)	8 (2.1)			
Marital Status						
Single	4 (1.0)	60 (15.7)	25 (6.5	6	12.204	0.039**
Married	19 (5.0)	144 (37.6)	106 (27.7)			
Widowed	1 (0.3)	19 (5.0)	3 (0.8)			
Divorced	0 (0.0)	1 (0.3)	1 (0.3)			
Religion						
Christianity	14 (3.7)	92 (24.0)	51 (13.3)	4	3.929	0.406**
Islam	10 (2.6)	130 (33.9)	83 (21..7)			
Traditional	0 (0.0)	2 (0.5)	1 (0.3)			
Educational Status						
Non-Formal Education	2 (0.5)	22 (5.7)	7 (1.8)	6	5.591	0.461**
Primary	3 (0.8)	45 (11.7)	26 (6.8)			
Secondary	14 (3.7)	115 (30.0)	66 (17.2)			
Tertiary	5 (1.3)	42 (11.0)	36 (9.4)			

***Significant**
****Fisher's Exact Analysis**

4.9 Hypothesis 2: There is no significant difference between level of knowledge and perception of physical exercise.

Table 4.9 presents results on the statistical difference between level of knowledge and perception of physical exercise.

Fisher's Exact test revealed that there was a significant difference between the level of knowledge of physical exercise and perception of physical exercise with a p=0.000, DF=2, X^2=18.204. Therefore we reject the null hypothesis that there is no significant difference in respondents' level of knowledge and perception of physical exercise.

Table 4.9 Fisher's Exact Analysis Showing the Difference between Level of Knowledge and Perception of Physical Exercise

Level of Knowledge	Perception category		Df	FP-value	
	Negative	Positive			
Poor	10	23			
Fair	33	281	2	18.204	0.000*
Good	1	35			
Total	44	339			

***Significant**

4.10 Hypotheses 3: There is no significant difference between factors influencing the practice of physical exercise and their willingness to participate in physical exercise.

Table 4.10 presents results on the statistical difference between factors influencing the practice of physical exercise and willingness to participate in physical exercise.

Fisher's Exact Test revealed that there was no significant difference between factors influencing the practice of physical exercise and willingness to participate in physical exercise with a p-value of > 0.05. Therefore, we fail to reject to reject the null hypothesis that there is no significant difference between factors influencing the practice of physical exercise and respondents' willingness to participate in physical exercise.

Table 4.10: Fisher's Exact Analysis Showing the Difference between Factors Influencing Practice of Physical Exercise and Their Willingness to Participate in Physical Exercise

Factors Influencing Practice	Willingness to participate		Df	F	P-value
	Negative (%)	Positive (%)			
Lack of materials/facilities needed to do physical exercise					
Yes	109 (28.5)	13 (3.4)	4	12.488	0.010*
No	142 (37.1)	7 (1.8)			
I don't know	1 (0.3)	0 (0.0)			
It is difficult to combine regular physical exercise with food selling business					
Yes	129 (33.7)	10 (2.6)	4	22.905	0.000*
No	119 (31.1)	7 (1.8)			
I don't know	4 (1.0)	3 (0.8)			
Lack of knowledge of physical exercise you can participate in					
Yes	94 (24.5)	10 (2.6)	4	8.565	0.059**
No	155 (40.5)	10 (2.6)			
I don't know	3 (0.8)	0 (0.0)			
Physical exercise is mainly for males					
Yes	21 (5.5)	0 (0.0)	4	7.288	0.088**
No	230 (60.1)	20 (5.2)			
I don't know	1 (0.3)	0 (0.0)			
Lack of time					
Yes	142 (37.1)	14 (3.7)	4	10.402	0.025*
No	108 (28.2)	5 (1.3)			
I don't know	2 (0.5)	1 (0.3)			
Body pains that follow after involvement in physical exercise					
Yes	91 (23.8)	13 (3.4)	4	12.475	0.010*
No	157 (41.0)	7 (1.8)			
I don't know	4 (1.0)	0 (0.0)			
Lack of encouragement from people					
Yes	77 (20.9)	7 (1.8)	4	8.745	0.055**
No	173 (46.2)	12 (3.1)			
I don't know	2 (0.5)	1 (0.3)			

***Significant** ****Fisher's Exact Analysis**

4.11 Hypotheses 4: There is no significant difference between factors influencing the practice of physical exercise and practice of physical exercise.

Table 4.11 presents results on the statistical difference between factors influencing the practice of physical exercise and the practice of physical exercise.

Fisher's Exact Test revealed that there was no significant difference between factors influencing the practice of physical exercise and the practice of physical exercise with a p-value of > 0.05. Therefore, we fail to reject the null hypothesis that there is no significant difference between factors influencing the practice of physical exercise and respondents' willingness to participate in physical exercise.

Table 4.11 Fisher's Exact Analysis Showing the Difference between Factors Influencing Practice of Physical Exercise and Their Practice of Physical Exercise

Factors Influencing Practice	practice of physical exercise		Df	F	P-value
	Poor	Good			
Lack of knowledge on physical exercise you can participate in					
Yes	45	95	2	1.723	0.443**
No	71	162			
I don't know	5	5			
Lack of time					
Yes	85	148	2	6.972	0.022*
No	35	112			
I don't know	1	2			
Lack of encouragement from people					
Yes	38	82	2	0.866	0.668**
No	79	175			
I don't know	4	5			
It is difficult to combine regular physical exercise with food selling business					
Yes	87	131	2	16.297	0.000*
No	33	125			
I don't know	1	6			
Lack of materials/facilities needed by you to do physical exercise					
Yes	52	118	2	4.785	0.089**
No	64	142			
I don't know	5	2			
Physical exercise is mainly for males					
Yes	9	26	2	3.689	0.133**
No	109	235			
I don't know	3	1			
Body pains that follow after involvement in physical exercise					
Yes	56	106	2	1.265	0.542**
No	64	152			
I don't know	1	4			

***Significant**
****Fisher's Exact Analysis**

4.12 Hypotheses 5: There is no significant difference between level of knowledge and practice of physical exercise.

Table 4.12 presents results on the statistical difference between level of knowledge and the practice of physical exercise.

Chi-Square Analysis revealed that there was a statistical difference between level of knowledge and the practice of physical exercise with p=0.017, DF=2, X^2=7.963. Therefore, we reject the null hypothesis that there is no significant difference between level of knowledge and practice of physical exercise.

Table 4.12 Chi-Square Analysis Showing the Difference between Level of Knowledge and Their Practice of Physical Exercise

Variable	Practice of physical exercise		Df	X^2	P-Value
Level of knowledge	Poor	Good			
Poor	14	11			
Fair	98	223	2	7.963	0.017*
Good	9	28			
Total	121	262			

***Significant**

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Discussion

5.1.1 Respondents socio-demographic characteristics

The socio-demographic characteristics of the respondents identified from this study were: age as at last birthday, ethnicity, marital status, religion and educational status. The study showed that out of 383 food stuff sellers, majority of the respondents were females and the most prevalent ethnic group was Yoruba which could be attributed to the study population.

Level of education of the respondents' showed that many of the respondents completed junior secondary education, while those that had primary education as their highest level of education were few. The proportion of the respondents who practice Islam was higher than Christianity and Traditional religion. From the data obtained, majority of the respondents were aged between 21-40years.

5.1.2 Knowledge of physical exercise

The findings from this study showed that some (35.2%) of the respondents had good knowledge of physical exercise. This could be compared to the research conducted by Aweto et al. (2013) that showed that few (30%) of their respondents had a good knowledge of physical activity. Most of the respondents know about physical exercise. The respondents possessed a high level of knowledge on the benefits of physical exercise to health. This can be deduced from their responses about some of the benefits of physical exercise they responded to. Most (89%) of the respondents had a good knowledge and reported that participating in physical exercise could prevent the occurrence of some disease. This can be linked to Warburton, Nicol and Bredin (2006) study which explained that there is greater reduction in the risk of death from cardiovascular disease and a 50% reduction in the risk of having heart disease. Adamu, Mu and Abdu, (2005) also confirmed that physical activity results in increased exercise capacity which may lead to many health benefits and that individuals who are more physically active appear to have lower rates of all-cause mortality.

Most (96.1%) the respondents reported that physical exercise can make someone healthier. This could be proven by Penedo and Dhan (2005) which reported that participants who engages in regular physical activity displayed more desirable health outcomes across a variety of health conditions. This can be confirmed by Muller and Khoo, (2014) which stated that an effective non-pharmaceutical way to prevent diseases, increase quality of life and promote general health in older adults is through physical exercise.

Fisher's Exact Test revealed that there was no significant difference between socio-demographic characteristics and the level of knowledge of physical exercise with a p-value of > 0.05.

5.1.3 Respondents' perception of physical exercise

According to Cambridge dictionary, perception is defined as a belief or opinion often held by many people and based on how things seem. The adoption of an active exercising lifestyle is often associated with positive perception towards exercise. According to Digelidis et al. (2003), formation of positive perception towards exercise is very important, putting into consideration the fact that regular exercise has been shown to be beneficial for public health.3

Respondents mean perception score was 6.9 ± 1.8 and the proportion of respondents' level of perception on physical exercise was as follow: Few (11.8%) of the respondents had negative perception (≤ 4), while (88.2%) of the respondents had positive perception (>4-9) on physical exercise. This can be associated with the good amount of knowledge which the respondents possessed. This can be linked to a study conducted by (Aweto et al.2013), which showed that almost all (94.8%) of their respondents had a positive perception towards the promotion physical exercise. Most of the respondents (87.2%) disagreed that physical exercise was mainly for athletes and most (96.9%) of the respondents also disagreed that people who regularly do physical exercise were unserious.

Statistically, using Chi-square test, it was found that there is significant difference between the level of knowledge of physical exercise and perception relating to physical exercise with a p=0.000, DF=2, X^2= 18.204.

5.1.4 Respondents' practice of physical exercise

It was revealed from the study that many (56.1%) of the respondents had good practice while some (43.9%) of the respondents had poor practice relating to physical exercise. This study is similar to a study conducted in a Nigerian metropolitan city among adults by Oyeyemi et al. (2013) which showed that 68.6% of their respondents were sufficiently active and engage in physical exercise. This can also be compared to a research carried out among inhabitants of Bangkok by Dajpratham et al, 2007 which showed that (58.4%) exercised regularly and only (18.9%) did not perform exercise at all because of the lack of time. This is in contrast to the recent statistics by Margie, et al (2018) which stated that only a small percentage of older adults including middle-aged persons engage in the recommended amount of regular exercise.

Majority (79.9%) of the respondents indicated to have engaged in brisk walking while few of the respondents (53.3%) engaged in dancing as a form of physical exercise. Many of the respondents (51.7%) indicated to be jogging as a form of physical exercise. This is similar to the common types of exercise reported from the Bangkok study to be walking, jogging, attending an aerobic exercise class, using an exercise machine, and callisthenic exercise.
Many (62.8%) of the respondents reported that they had engaged in physical exercise in the past one week and 37.2% of the respondents had not exercised in more than one week. Some (36.0%) of the respondents only exercise 1-2 times a week while few (21.8%) of the respondents exercise for at least 3-5 times. Few (11.1%) of the respondents' exercise for <15 minutes on each occasion Majority (88.9%) of the respondents exercise for more than 15 minutes on each occasion. This is related to Dajpratham et al, (2007) which reported that their respondents usually performed regular exercises of 1-2 days per week with varied duration.

The World Health Organization recommends that adults between 18-65 years old should do at least 150 minutes of moderate-intensity aerobic physical activity throughout the week, or engage in 75 minutes of vigorous-intensity aerobic activity (WHO 2010). However, the results from this study showed that majority of the respondents did not meet up the recommended standard for physical exercise.

5.1.5 Factors influencing the practice of physical exercise

Availability, accessibility, affordability and capability are important factors in carrying out a health intervention. From the study, It was shown that some (44.4%) of the respondents reported that lack of facilities/materials such as boots and special shoes were factors that influence them from practicing physical exercise. This can be associated to a review carried out by Sallis et al. (1994) which stated that having equipment and materials available for exercise were positively associated with practicing physical exercise and could be a high contributing factor in exercising. Evenson et al. 2006 also reported that girls who possess sports equipment at home were more than twice likely to report physical exercise than girls not having access to equipment. Another factor reported from the study was that an environment rich physical activity resources could remain under-utilised unless consideration is given to how accessible the facility is to the population.

It was revealed that majority (60.8%) of the respondents reported that lack of time is a factor that influenced their practice of physical exercise. Statistically, there was a significant difference between lack of time as a factor influencing physical exercise and practice of exercise (P-value = 0.025). The study also showed that many (56.9%) of the respondents mentioned that it is difficult to combine regular physical exercise with food selling business. It was also found that there was a statistical difference between food selling business as a factor influencing exercise and practice of physical exercise (P-value = 0.000).

Time constraints and trading business was the major reason stated by the respondents for not practicing physical exercise. This is similar to the research conducted by Tappe et al. (1989) in which their respondents' major barriers to exercise were ''time factor'', ''school and schoolwork'' and ''lack of interest''. Many (57.3%) of their respondents reported that it was difficult to combine regular physical exercise with food selling business

Some (31.3%) of the respondents reported that lack of encouragement from their people influence their practice of physical exercise. This means that reinforcement and support from friends and family could influence one's decision to participate in physical exercise. This could be likened to a study by Abramson et al. (2000) that reported that physicians who

perform aerobic exercise regularly were more likely to counsel their clients on the benefits of practicing physical exercise.

5.1.6 Willingness to be participating in physical exercise

For those currently exercising

Findings from the study showed that majority of the respondents who practice physical exercise reported that they would want to continue exercising because they love it, makes their body light and prevents diseases. This can be linked to the study conducted by Kolt et al. (2018) which shows that the most common exercise/sport activities that participants were involved in were walking, tennis, and swimming. Their most highly reported motives for participation were to keep healthy, liking the activity, to improve fitness, and to maintain joint mobility.

Few (11.8%) of the respondents mentioned that they would not want to continue exercising due to health challenges and age. This is similar to a survey of >92,000 people in England showed that exercise participation declines progressively throughout adult life and so does the desire to participate (Department for Culture 2011). Indeed, only around half of all adults and just a quarter of people aged over 65 years meet the minimum recommended activity levels needed to maintain health (Department of Health 2011). Also. studies have shown that physical activity participation declined with age, gender, socio-economic status and high adoption of urbanization in current technological advancement, thus, making a change in people behavior pattern as regard to sedentary (Ajala, 2005).

5.1.7 For those not practicing exercising

Many (51.4%) of the respondents who are not exercising mentioned that they will like to start exercising while some (48.6%) reported that they would not want to start practicing exercise. Some (45.6%) of the respondents who reported that they will like to start exercising mentioned that they intend to start exercising on weekends while one-third of the respondents reported that they will like to set aside morning time for practicing exercise.

Some (46.7%) of the respondents of reported that they would be jogging to exercise, while few (4.4%) of the respondents mentioned that they intend to be engaging in brisk walking as a form of physical exercise.

5.1.8 Implication of findings for Health Promotion and Education

The findings from this study have several implications for planning, development and implementation for health promotion and education on the knowledge, perception and practices of physical exercise among food stuff sellers in Bodija market, Ibadan. It was deduced from this study that many of the respondents' had fair knowledge of physical exercise and a substantial amount of the respondents reported that they don't practice physical exercise. This therefore suggests that this population is at high risk of developing diseases such as coronary heart disease, osteoporosis, diabetes, obesity, hypertension, cancer and depression.

5.2 Conclusion

The study was used to investigate the knowledge, perception and practices of physical exercise among food stuff sellers in Bodija market, Ibadan North Local Government Area, Oyo State. It can be concluded that the study population had a fair knowledge, positive perception and many had good practice of physical exercise.

According to the World Health Organization on Global recommendation for physical exercise, adults between 18-65 years old are required to do at least 150 minutes of moderate-intensity aerobic physical activity throughout the week, or engage in 75 minutes of vigorous-intensity aerobic activity (WHO 2010). However, the study revealed that only a few of the respondents exercise for at least 3-5 times a week and did not meet up to recommended guideline for exercise. Among the factors mentioned for not practicing physical exercise was lack of time and lack of encouragement from people. To support the time constraint as a factor. Majority of the respondents' agreed that "it was difficult to combine food selling business with physical exercise. Other factors reported by the respondents were unavailability of facilities, materials and equipment needed for practicing physical exercise. Those who

were currently not practicing physical exercise reported that they intend to start jogging or engage in brisk walking as their form of physical exercise.

Efforts must therefore be intensified and resources channeled towards the sensitization of food stuff sellers to increase the knowledge, perception and practices of physical exercise

5.3 Recommendations

The following recommendations were made based on the findings of the study;

1. Inadequate knowledge of the health benefits of physical exercise should be addressed by giving health education and organizing sensitization programmes on media e.g. (television and radio) will help to address the issue of physical inactivity/sedentary lifestyle among food stuff sellers in Bodija market.
2. Mass campaigns should be conducted by health promoters in the market place to increase the level of knowledge of physical exercise**.**
3. Government should provide suitable and accessible facilities and equipment in the market place that can motivate them to easily participate in physical exercise.
4. Government should create healthy environments such as construction of walkways and modifications to transport policies like banning public transport vehicles (taxis) from gaining entry to certain areas of the market in order to encourage physical exercise in form of walking among food stuff traders.

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APPENDICES

APPENDIX I

INFORMED CONSENT FORM

Title of Research:

Knowledge, perception and practices of physical exercise among food stuff sellers in Bodija market, Ibadan North Local Government, Oyo State, Nigeria.

Name of Researcher:

This study is being conducted by Akeju Oluwabusayomi Opeyemi

Department of Health Promotion and Education

Faculty of Public Health

College of Medicine, University of Ibadan

Purpose of Research:

The purpose of this study is to investigate the knowledge, perception and practices of physical exercise among food stuff sellers in Bodija market, Ibadan North Local Government, Oyo State, Nigeria.

Procedure of the Research

A total of 383 food stuff sellers will be recruited for this study using a four stage sampling technique. This study will employ quantitative method of data collection using interviewer-administered semi structured questionnaire. The respondents will be required to supply the necessary information which will be used for the purpose of this study. The questionnaire contains questions relating to the knowledge, perception, practices, factors influencing practice and willingness to be participating in physical exercise. The Chairman of the market traders in person of Mr Suleiman Ile-Omo will be visited to inform and seek approval for the study

Risk

The research does not require collection of invasive materials, therefore safety of participants is guaranteed.

Costs to participants

Your participation in this research will not cost you anything

Benefits

The goal of this research is to know the knowledge, perception and practices of physical exercise among food stuff sellers in Bodija market, Ibadan North Local Government, Oyo State, Nigeria.

Although there are no direct and immediate benefits to participants, the information gathered from this study can be used to make necessary recommendations to improve quality of life of food stuff sellers in the market place

Confidentiality

Information collected from this study will have no name or any kind of identifier thus cannot be linked to you in any way. Neither will your name reflect in the publication. The information gotten would be stored properly with limited access to unauthorized personnel.

Voluntariness

Your participation in this research is entirely voluntary; however, a food stuff seller who feels uncomfortable with any of the questions asked may ignore such questions.

Statement of person obtaining informed consent

I have fully explained this research to ……..…… and have given sufficient information, including about risks and benefits, to make an informed decision.

DATE …….. SIGNATURE……..

NAME…….

Statement of person giving consent

I have read the description of the research and I understand that my participation is voluntary. I know enough about the purpose, methods, risks and benefits of the research and I agree that I want to partake in it. I understand that I may freely stop being part of this study at any time. I have received a copy of this consent form and additional information sheet to keep for myself.

DATE……..SIGNATURE……..

NAME……

WITNESS' SIGNATURE (if applicable): ……..

WITNESS' NAME (if applicable): …….

APPENDIX II

QUESTIONNAIRE

Serial No……..

Knowledge, Perception and Practices of Physical Exercise among Food stuff sellers in Bodija Market, Ibadan North Local Government Area, Oyo State, Nigeria.

Dear Respondent,

I am a postgraduate student of the Department of Health Promotion and Education, Faculty of Public Health, College of Medicine, University of Ibadan. I'm currently carrying out a study to investigate the knowledge, perception and practices of physical exercise among food stuff sellers in Bodija Market in Ibadan, Nigeria. The research is primarily in partial fulfilment for the award of the degree of Masters in Public Health in Health Promotion and Education in University of Ibadan.

Your sincere response is encouraged as participation in this study is voluntary, absolute anonymity and confidentiality shall be maintained as there is no wrong or right answer and the information provided is only used for research purposes.

For the purpose of this study, physical exercise is any bodily activity that is planned, structured, repetitive for the purpose of improving and maintaining physical fitness for health.

Please kindly show your voluntary participation in this study by answering YES or NO to the question below:

ARE YOU INTERESTED IN THIS STUDY? Tick either Yes □ No □

Thank You Very Much

Akeju Busayo

Section A: Socio-Demographic Information

Instruction: Please tick (√) the boxes provided below

1. Sex. 1. Male ☐ 2. Female ☐

2. Ethnicity. 1. Ibo ☐ 2.Yoruba ☐ 3. Hausa ☐ 4.other (specify)……..

3. Age in Years (As at last Birthday) _____

4. Marital Status.1. Single ☐ 2.Married ☐ 3.Widowed ☐ 4.Divorced/ Separated ☐

5. Religion 1. Christianity ☐ 2.Islam ☐ 3.Traditional ☐ 4.Others (Specify)……

4. Educational Status.1. Non-formal education ☐ 2.Primary ☐ 3.Secondary ☐

4.Tertiary ☐

Section B: Knowledge of Physical Exercise
Instruction: For the questions in this section, pleases tick [√] the boxes and complete the blank spaces provided.

5. Physical exercise is the same thing as physical activity 1.True ☐ 2. False ☐

6. Name three (3) physical exercises that you know? Fill in the blank space provided below.

a)……

b)……

c)……

7.0 Instruction: In table 1, please tick "**True**" if you believe it is a benefit, tick "**False**" if you believe it is not a benefit tick "**I don't know**" if you are not sure.

S/N	Knowledge-related statement	True	False	I don't Know
7.1	Physical exercises can help to prevent some diseases			
7.2	Physical exercise can make someone healthier			
7.3	Physical exercise gives an individual good body shape			
7.4	Physical exercise can make people sleep better			
7.5	Physical exercise can improve the ability of an individual's body to fight diseases			
7.6	Participating in physical exercise can lead to diseases			
7.7	Physical exercise can be used to treat or control some diseases			

8. Table 2 is a list of diseases; if you think it can be caused by not taking part in Physical Exercise, tick "**True**". If you think not taking part in physical exercise cannot cause it, tick "**False**", and tick "**I Don't know**" if you are not sure

S/N	Diseases	True	False	I Don't Know
8.1	Some Heart disease			
8.2	Type 2 diabetes			
8.3	Obesity			
8.4	Hypertension			
8.5	Malaria			
8.6	Stroke			

9. Table 3 contains some diseases; Tick '**True**' if think Physical Exercise can be used to control/treat any of these diseases, tick '**False**' if it cannot be used and tick '**I don't know**' if you are not sure.

S/N	Diseases	True	False	I Don't Know
9.1	Some Heart disease			
9.2	Type 2 diabetes			
9.3	Obesity			
9.4	Hypertension			
9.5	Malaria			
9.6	Stroke			

Section C: Perception of physical exercise

10. Table 4 contains a list of views, opinions or perception. For each tick [√] to indicate if you agree, disagree and tick undecided if you are not sure.

	Statement	Agree	Disagree	Undecided
10.1	Physical exercise is mainly for athletes: I am not an athlete.			
10.2	People who regularly do physical exercises are unserious			
10.3	Physical exercise is time-wasting			

10.4	I don't take part in physical exercise because I do not have the interest			
10.5	It is not always convenient to participate in physical exercise.			
10.6	Physical exercise is needed mainly by people who are overweight			
10.7	Physical exercises are only done in special places			
10.8	The running around I do every day is more than physical exercise; no need for a specific time for it.			
10.9	Physical exercise is mainly for young people in schools			

Section D: Practice of Physical Exercise

Instruction: Please indicate your responses to the questions in the section by ticking the boxes

11. Have you ever participated in any physical exercises? 1. Yes ☐ 2. No ☐

If No go to question 15

12. If yes to the question 11, when was the last time? .....

13. How many times do you exercise in a week? .....

14. For how long (in minutes) do you exercise on each occasion? .....

15. Table 5 contains a list of activities, please tick [√] to indicate whether you did it in the last one week so as to exercise. Also feel free to add to the list which may be missing in the table.

	Activities	Yes	No
15.1	Brisk walking		
15.2	Dancing		
15.3	Climbing stairs		
15.4	Carry heavy loads		
15.5	Running		
15.6	Playing football		
15.7	Jogging		
15.8	Any other thing done to exercise		

16. Are you suffering from any health challenge that can prevent you from participating in physical exercises? 1. Yes ☐ 2.No ☐ If No go to question 18

17. If "Yes" to question 16, what is the health condition……

SECTION E: Perceived Factors Influencing the Practice of Physical Exercise

18. Table 6. Instruction**:** For each statement, indicate if **Yes, No** or **I don't know**

	Statement	**Yes**	**No**	**I don't know**
18.1	Lack of materials/facilities needed by you to do physical exercise (e.g boot/special shoes, jerseys)			
18.2	It is difficult to combine regular physical exercise with food selling business			
18.3	Lack of knowledge on type of physical exercise you can participate in.			
18.4	Physical exercise is mainly for males			
18.5	Lack of time			
18.6	Body pains that follow after involvement in physical exercise.			
18.7	Lack of encouragement from people			

Section F: **Willingness to be participating in physical exercise:**

For those currently exercising;

19. Will you want to continue exercising? 1. Yes ☐ 2. No ☐

20. If yes, what are your reasons……

21. If you do not want to continue with physical exercises, what are your reasons……

……

For those not practicing exercise;

22. Will you like to start exercising? Yes ☐ No ☐

23. If you intend to start exercise, which period will you like to set aside for exercising? ……

24. If you will like to start exercise in future, what type of physical exercises will you want to be doing? |

APPENDIX III

IWE FUN IWADI

Nọmba ni tẹlentẹle ……..

Imọ, Ero ati Awọn ere Idaraya laarin awọn ti o n ta nkan ti enu nje ni Ọja Bodija, Ibadan, ipinle Oyo, Nigeria.

Olufe onidahun,

Mọ je akekoo lati gboye imo ijinle keji ni eka ti o n ri ipolongo ati ikoni nipa eto ilera ni abe akoso eto ilera gbogbogbo, ni yunifasiti ile Ibadan. Mo n se iwadi lọwọlọwọ lati mo nipa Imọ, Ero ati Awọn ere Idaraya laarin awọn ti o n ta nkan ti enu nje ni Ọja Bodija, Ibadan, ipinle Oyo, Nigeria. Iwadi yin i oje ara oun ti mo ni lati se ki n to gba oye onimo keji ti ile iwe giga ni eka ti o n ri ipolongo ati ikoni nipa eto ilera ni abe akoso eto ilera gbogbogbo, ni yunifasiti ile Ibadan .

Idahun ni ododo lati kopa ninu ise iwadi je eyi ti ako ni fi ipa mu o, o je eyi ti enikeni ko ni mo si ati pe asiri yoo wan i ipamo, ko si idahun ti o ye tabi eyi ti ko ye, awon alaye ti a ba gba ni yoo wa fun ise iwadi nikan

Fun idi iwadi yi, ere idaraya je eyikeyi ere idaraya ti a ti gba ni ero, ti to leleto, atunse ni gbogbo igba fun idi imudarasi ati ṣetọju amọdaju ti ara fun ilera.

Jọwọ fi inu rere ṣafihan ikopa re ninu iwadi yii je atinuwa nipase idahun BẸẸNI tabi KO si ibeere ti o wa ni isale:

NJE O WU O LATI KOPA NINU ISE IWADI YI?

Fi ami si boya bẹẹni tabi rara Beeni☐ Beeko☐

E ṣeun pupọ

Akeju Busayo

ABALA KIINI: ALAYE NIPA AWOMO AKOPA

Ilana: Jọwọ fi ami si (√) awọn apoti ti a pese ni isale

1. Eya ako tabi abo. 1. Ako ☐ 2. Abo ☐

2. Eya eleyameya. 1. Ibo ☐ 2.Yoruba ☐ 3. Hausa ☐ 4.miiran (se alaye ni pato)……

3. Ọjọ ori ni Awọn Ọdun (Ọjọ-ibi ikẹhin)_____

4. Ipo igbeyawo. 1. Nikan dawa ☐ 2.Ti gbeyawo ☐ 3.Ti di opo ☐ 4.Kọrasilẹ ☐

5.Ti yapa☐

5. Esin 1. Kristiẹniti ☐ 2.Isilamo ☐ 3.Esin ibile ☐ 4. Jowo (se alaye ni Pato)……

4a. Ipo Ikẹkọ.1. Eto ẹkọ ti kii ṣe deede ☐ 2.Alakobere☐ 3.Eko kewa ☐ 4.Ile eko giga☐

4b. Jọwọ pato ti Ile-ẹkọ giga 1. NCE ☐ 2. OND ☐ 3. HND ☐ 4. B.SC ☐
(awọn miiran ṣalaye)……...

ABALA KEJI: Imo nipa ere idaraya

Ilana: Fun awọn ibeere ni abala yii, fi ami si [√] awọn apoti ki o pari awọn aye to ṣofo ti a pese.

5. Ere idaraya je ohun kana pelu eto ere idaraya 1. ooto ni □ 2. Iro ni□

6. Ere idaraya je ohun ti owa ni abe eto ere idaraya 1. iro ni □ 2. ooto□

7. Sise ere idaraya wa labe ere idaraya 1.ooto ☐ 2. iro☐

8. Daruko meta (3) ninu ere idaraya ti o mo. Kun aaye ti o ṣofo ti a pese ni isalẹ.

a)……

b)……

c)……

9.0 Ilana: Ni tabili kinni, fi ami "**ooto**" ti o ba gbagbọ pe o jẹ anfani, fi ami "**iro**" ti o ba gbagbọ pe kii ṣe ami anfani "Nko mo" ti o ba wa ko daju.

S/N	Alaye ti o ni ibatan Imọ	otito	Iro	Nko mo
9.1	Ere idaraya le ṣe iranlọwọ lati yago fun diẹ ninu awọn arun			
9.2	Ere idaraya le ṣe ilera eniyan			
9.3	Ere idaraya yoo fun ara ni anfaani lati eya ara to peye			
9.4	Ere Idaraya le jẹ ki awọn eniyan sun oorun dara			

9.5	Ere Idaraya le ṣe iloṣiwaju agbara ara eniyan lati dojuko awọn arun			
9.6	Kikopa ninu ere idaraya le ja si awọn arun			
9.7	A le lo ere idaraya lati tọju tabi ṣakoso dię ninu awọn arun			

10. Tabili kejiajẹ atokọ ti awọn arun; ti o ba ro pe o le fa nipasẹ kikopa ni ere idaraya, fi ami "**otito**". Ti o bar o pe kikopa ninu ere idaraya ko le se okunfa, fi ami "**Iro**", ati fi ami"**Emi ko mo**" if you are not sure

S/N	Awon arun	Otito	Iro	Emi ko mo
10.1	Dię ninu awon aisan okan			
10.2	Àtọgbẹ Iru keji			
10.3	Isanraju			
10.4	Eje riru			
10.5	Aisan iba			
10.6	Arun room lapa room lese			

11. Tabili keta ni dię ninu awọn arun; Fi ami si'**otito'** ti o bar o pe ere idaraya le je ona lati dena tabi toju awon aisan wonyi, fi ami '**iro'** ti ko ba le lo o ki o fi ami si '**Emi ko mo'ti o ba wa ko daju**.

S/N	Diseases	True	False	Don't Know
10.1	Dię ninu awon aisan okan			
10.2	Àtọgbẹ Iru keji			
10.3	Isanraju			
10.4	Eje riru			
10.5	Aisan iba			
10.6	Arun room lapa room lese			

Abala keta: Ero nipa ere idaraya

12. Tabili kerin ni oni awon iwoye, ero. Fun eyi kokan fi ami[√]lati tọka ti o ba gba, gba ati fi ami si isalẹ ti o ko ba da ọ loju.

	Alaye	Mo gba	Emi ko gba	Aiti ni ipinnu
12.1	Ere idaraya wa fun awon ti o n fi ere			

	idaraya se ise: Emi ki si se elere idaraya.			
12.2	Awọn eniyan ti o nse ere idaraya deede je awon aibikita			
12.3	Ere idaraya ma n fi akoko se ofo			
12.4	Emi ki kopa ninu ere idaraya nitori Emi ko ni ifẹ			
12.5	Ko rọrun nigbagbogbo lati kopa ninu ere idaraya.			
12.6	Ere idaraya je ni a nilo nipataki nipasẹ awọn eniyan ti o ni iwọn iwuwo			
12.7	Ere idaraya ni ama n se ni awon aye Pataki kan			
12.8	Awon ise ti mo n se kaakakiri ni ojojumo po ju ere idaraya lo; ko si iwulo fun akoko kan pato fun			
12.9	Ere idaraya je oun pato fun awon ti owa ni awon ile iwe			

Abala kerin: Iwa ere idaraya

Ilana: Jọwọ tọka awọn idahun rẹ si awọn ibeere ni apakan nipa titẹ awọn apoti

13. Njẹ o ti kopa ninu eyikeyi ere idaraya? 1. Beeni ☐ 2. Beeko ☐

Ti o ba je bẹẹkọ lọ si ibeere 18

14. Ti o ba je bẹẹni lo si ibeere 13,nigbawo ni igba ikẹhin? .....

15. Awọn akoko melo ni o ṣe idaraya ni ọsẹ kan? ……

16. Fun akoko melo (ni iṣẹju die) ni o lo fun ere idaraya ni awon igba kookan? ……

17. Tabili karun ni atokọ ti awọn iṣẹ, jọwọ fi ami si [√]lati tọka boya o ṣe ere idaraya ninu ọsẹ to kẹhin kan bi. O tun le se afikun si atokọ eyiti o le sonu ni tabili.

	Awọn iṣẹ ṣiṣe	Beeni	beeko
17.1	Irin ni Kankan		
17.2	Ijo jijo		
17.3	Gigun oke		
17.4	Gbigbe eru ti owuwo		
17.5	Sisare		
17.6	Boolu gbigba		
17.7	Irin bi ere		
17.8	Ohunkan miiran ti a ṣe lati se ere idaraya		

18. Nje o jiya eyikeyi tabi ni ipenija ilera ti o le ṣe idiwọ fun ọ lati kopa ninu awọn ere idaraya? 1. Beeni□ 2.Beeko□ Ti Bẹẹkọ ba lọ si ibeere 20

19. Ti Bẹẹni ba lọ si ibeere 18, kini ipo ilera ……

ABALA KARUN: Awọn Oye Ipa ti O gba Ihuwasi ti ere idaraya

20. Tabili kefa. Ilana**:** Fun awon alaye kokan, so ni pato **beeni, Beeko**or **Emi ko mo**

	Alaye	**Beeni**	**Beeko**	**Emi ko mo**
20.1	Aini awọn ohun elo / awọn ohun elo ti o nilo fun ọ lati ṣe adaṣe ere idaraya (fun apẹẹrẹ. Bata / awọn bata pataki,ewu Pataki fun ere idaraya)			
20.2	O nira lati se ere idaraya adaṣe deede pẹlu isowo itaja ounje			
20.3	Aini oye lori iru ere idaraya adaṣe ti o le kopa ninu.			
20.4	Ere idaraya je oun ti owa fun awon okunrin nikan			
20.5	Aini akoko			
20.6	Awọn irora ara ti o tẹle lẹhin ilowosi ninu			

	ere idaraya ti ara.			
20.7	Aini iwuri lati odo awon eniyan			
	Awọn ẹlomiran:			

Abala kefa: **Kikopa ninu ere idaraya tokantokan**

Fun awọn ti nṣe ere idaraya aladaṣe lọwọlọwọ;

21. Ṣe iwọ yoo fẹ lati tẹsiwaju ninu ere idaraya aladase? 1. Beeni ☐ 2. Beeko ☐

22. Ti o ba jẹ bẹẹni, kini awọn idi rẹ ……

23. Ti o ko ba fẹ tẹsiwaju pẹlu awọn ere idaraya aladaṣe ti ara, kini awọn idi rẹ ……

……

Fun awọn ti ko ṣe ere idaraya aladaṣe;

24. Ṣe iwọ yoo fẹ lati bẹrẹ ere idaraya aladaṣe? Beeni ☐ Beeko ☐

25. Ti o ba pinnu lati bẹrẹ idaraya, akoko wo ni iwọ yoo fẹ lati seto fun ere idaraya? ……..

26. Ti o ba fẹ lati bẹrẹ idaraya ni ọjọ iwaju, iru awọn ere idaraya aladaṣe wo ni iwọ yoo fẹ latiṣe?

……

APPENDIX IV

ETHICAL APPROVAL LETTER

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

OYO STATE: THE PACESETTER

MINISTRY OF HEALTH

DEPARTMENT OF PLANNING, RESEARCH & STATISTICS DIVISION

PRIVATE MAIL BAG NO. 5027, OYO STATE OF NIGERIA

Your Ref. No. .....

All communications should be addressed to

the Honorable Commissioner quoting

Our Ref. No. AD 13/479/1511

30th October, 2019

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

Attention: Akeju Oluwabusayomi

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

This is to acknowledge that your Research Proposal titled: "Knowledge, Perception and Practice of Physical Exercise among Food Stuff Sellers in Bodija Market, Ibadan, Oyo State." has been reviewed by the Oyo State Ethics Review Committee.

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

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

4. Wishing you all the best.

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