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Assessment of Physical Activity (Walking) and Fitness Levels in Post-Fuel Subsidy Removal among the Staff of Tertiary Institutions in Jigawa State

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Abstract

The study examined the influence of Post-fuel subsidy removal on Physical activity and Physical fitness level of the staff in tertiary institutions, Jigawa state. Five (5) tertiary institutions were selected using purposive sampling process from the five (5) emirate councils of the state. Twenty (20) volunteered participants from each institution who meet the inclusion criteria were randomly selected to have one hundred (100) participants. The study was carried out using survey design with the use of questionnaire. Findings of this study indicated an insufficient walking activity, inadequate walking frequencies per week, and insufficient duration of walking activity engaged for nearby shopping and market before the fuel subsidy removal by the staff of tertiary institutions in Jigawa state. The study further revealed an increase in the walking activity, frequencies and duration of walking per week for nearby shopping and market by the staff of tertiary institutions in Jigawa state, in these days of post-fuel subsidy removal. Also, it was found that many of the staff experienced some changes in their body, particularly of being comfortable in terms of their physique and physiological function. The study recommended for the staff of tertiary institutions to sustain this lifestyle even if the fuel subsidy is returned, in order to continue benefiting the gain of walking activity for fitness and health.

Keywords: Physical activity, Walking, Fitness levels, Fuel subsidy removal, Tertiary institutions, Jigawa State, Staff, Exercise habits, Health outcomes.

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Introduction

Walking is one of the less costly and most attainable form of physical activity. It isa vital locomotor skill used in everyday activities like walking to market, shop, workplace, or other places. It is also used in sports, in play, dance and other activities in the life of human. Walking can easily be adopted by people of different ages, along with those who have never participated in physical activity. The intensity, duration and frequency of walking is regulated by individual. It is safer, repeatable, self-reinforcing, habit-forming activity and the main alternative for increasing physical activity in populations (Mohammed, 2017). Walking has been linked with numerous health benefits.

It has been highlighted to be the easiest and most acceptable form of physical activity that can be incorporated into everyday life (Department of Health, 2011). Public Health England (2017) acknowledges brisk walking as an evidence-based choice for promoting physical activity. Walking is already prevalent and has no skill, facility or equipment requirement. Furthermore, walking is more accessible and acceptable than other forms of physical activity for most people. In addition, walking can be included in daily life without much additional time expenditure. Füssl (2019) reported that in the recent past systematic review by Oja et al. (2018) demonstrated that walking has benefits for seven (7) cardiovascular disease risk factors such as body mass, body mass index, body fat, systolic and diastolic blood pressures, fasting glucose and VO_2 max. These findings demonstrate the health potential of everyday walking for large segments of the population. The conclusion of the authors was that "walking still remains firmly a 'best buy' for public health" (Füssl, Jaunig & Titze, 2019).

However, advancement in technology today has made lots of people to be less active in day-to-day physical activities, particularly walking. This encourages a sedentary lifestyle, which might lead to many risk factors for diseases. Physical inactivity or lack of exercise is considered as the 4^{th} leading cause of global mortality, and one of the many leading causes of ill health in today's society. For example, in the past, the average drug cost per year due to physical inactivity globally stands at 67.5 billion dollars (World Health Organization (WHO), 2018).

On the other hand, regular physical activity or exercise has been shown to have a significant impact on human health, such as lowering the likelihood of heart disease, stroke, type 2 diabetes, and some types of cancer. It also improves memory and sleep, increases human ability to focus, and reduces symptoms of depression and anxiety (House, 2023).

To minimize the health-related damages from the technological developments, experts recommend physical exercise and the need for the placement of greater attention on public health interventions aiming at promoting physical activity participation among individuals (Mu'az, 2019). For instance, taking a walk of ten thousand (10,000) steps per day on most days of the week is required for adults aged 18 to 64 years to maintain fitness (WHO, 2018). Participation in physical activities can help to prevent chronic diseases and shorten the cause of diseases even in older adults. This would reduce medical expenses and lower health-related costs to society as revealed by Yeh, Pai and Jeng (2019). Being physically active is a key factor in maintaining health and in normal functioning of physiological systems across the life-course (Bangsbo et al., 2019).

Generally, human beings cannot survive without some level of physical activity. An individual needs some form of physical activity to eat food, perform domestic activities, occupational activities and many others in the process of life. Therefore, physical activity or

movement is an integral part of human life. Humans require some physical activities to obtain food, shelter and other essential components of life. In 2018 World Health Organization posited that, health problems especially non-communicable diseases can fundamentally be attributed to the physical activity patterns of humans that have changed over decades (WHO, 2018).

Post-fuel subsidy removal in Nigeria may have some effects ranging from individual to larger communities in terms of their daily survival needs. Pedabo (2023) reveals that the removal of fuel subsidy significantly affects the lower economic class citizens, who form a major part of the country's economic strata. Given the strong positive correlation between pump fuel prices and the cost of goods and services in Nigeria, an increase in fuel prices is likely to lead to higher prices for goods and services. These higher prices may also affect the middle class economic class citizens in many aspects of life including transportation.

The health benefits of physical activity/exercise include reduced risk of developing diabetes, cardiovascular diseases, cancers, increased healthy muscles, bones, joints, and longer healthy life. Engagement in physical exercise and organized sports is associated with healthy growth, development in cognitive abilities, psychological well-being and lower level of substance use. Regular physical activity is associated with reduced risks of heart disease, stroke, diabetes, breast and colon cancer, improved mental health and quality of life. However, all forms of physical activity can provide health benefits if undertaken regularly and of sufficient duration and intensity as recommended by World Health Organization and other professionals of exercise therapy. For example, physical activity of at least an hour of moderate to vigorous intensity per day, or at least 150 minutes of moderate physical activity per week or 75 minutes of vigorous physical activity per week, or an equivalent combination of moderate and vigorous physical activities (WHO, 2018). On the contrary, physical inactivity or lack of exercise has been associated with several risk factors for diseases like diabetes, heart diseases, cancer and functional disability. For example, globally, a huge amount of money is spent every year due to lack of physical exercise. Thus, physical exercise is very essential to human life, its practical application could enhance both health and components of individual’s fitness.

Statement of the problems

Improvement in technology today has made people to be less active in day-to-day physical activities. This encourages a sedentary lifestyle, which might lead to many risk factors for diseases. Many people are physically inactive considering the level of what they do in a day or a week in terms of their normal daily physical activities. Numerous studies reported that physical inactivity or lack of exercise is among the leading risk factors for several diseases like hypertension, diabetes, stroke, obesity and some cancers. These are the most common diseases affecting the people of Jigawa State, Nigeria. For example, taking a walk of ten thousand (10,000) steps per day on most days of the week is required for adults aged 18 to 64 years to maintain fitness (WHO, 2018), In many communities of Jigawa State, people are not capable of meeting up with this requirement of physical activity for maintenance of fitness. However, with post-fuel subsidy removal in Nigeria, many people in Jigawa State tend to adopt walking on foot and riding of bicycles other than using cars and motorcycles. This may likely have an impact on physical fitness levels of the people. It is on this basis that this study intends to investigate the influence of post-fuel subsidy removal on physical activity and fitness levels in urban communities of Jigawa State.

Pedabo (2023) reported that the removal of fuel subsidy greatly affects the lower economic class citizens, who form a major part of the country's economic strata. Inflation may rise initially as a logical economic reaction to fuel price subsidy removal. The increased fuel pump price has diminished the economic power of citizens, particularly those in the lower economic class. If the government fails to implement an appropriate response, the middle economic class citizens may also be pushed into the lower economic class. These effects may reflect in many aspects of human life and that of the communities.

Concept of Physical Activity

The term physical activity has been defined variously among physical therapists. Prominent among them include Flynn, Jellum, Howard, Moser and Mathis (2018) who defined physical activity as any movement carried out by skeletal muscle that requires energy and is focused on building health. Again, World Health Organization (2018) described physical activity as any bodily movement produced by skeletal muscle that requires energy expenditure. Physical activity is any bodily movement produced by the contraction of skeletal muscle that increases energy expenditure above the basal level (Zachariah & Alex, 2017).

In daily life, Physical activity can be classified into occupational, household, sports and others. For example, the acceptable physical activity includes walking, house cleaning, yard work, or taking the stairs instead of the elevator (Flynn et al., 2018). Other lifestyle-common activities like walking briskly, climbing stairs, doing more housework and gardening work, engaging in active recreational pursuits involve contraction of skeletal muscle that increases energy expenditure above the basal level (Zachariah & Alex, 2017). However, all forms of physical activity can provide health benefits if undertaken regularly and of sufficient duration and intensity.

Health benefits of Physical activity

Regular physical activity has diverse health benefits, which contributes to the prevention of several cancers, excessive weight gain, cardiovascular disease, and improvement of brain health (Füssl, Jaunig & Titze, 2019; Physical Activity Guidelines Advisory Committee, 2018). Physical activity occurs throughout the day, for a variety of purposes, and in many types of settings. Typically, four contexts are considered to be important for regular physical activity: (a) occupational physical activity is performed while working (b) transportation physical activity is performed in order to get from one place to another (c) household physical activity is done in or around the home, and (d) leisure-time physical activity is performed when not working, traveling to a different location, or doing household chores (Physical Activity Guidelines Advisory Committee 2018).

Physical activity benefits many parts of the body and can reduce many of the risk factors for non-communicable diseases (Cheng et al., 2019). Wiium and Säfvenbom (2019) reported that the health benefits of physical activity include reduced risk of developing Diabetes, Cardiovascular diseases, Cancers, increased healthy Muscles, Bones, Joints, and longer healthy life. Regular physical activity is associated with reduced risks of heart disease, stroke, diabetes, breast and colon cancers, and improved mental health and quality of life (World Health Organization, 2018). Nystoriak and Bhatnagar (2018) reported that it is widely accepted that regular physical activity is beneficial for cardiovascular health. Frequent exercise is strongly associated with a decrease in cardiovascular mortality as well as the risk of developing cardiovascular disease. Physically active individuals have lower blood pressure, higher insulin sensitivity, and a more favorable plasma lipoprotein profile.

It is well established that excess body fat, particularly when located centrally around the abdomen, is associated with hypertension, metabolic syndrome, Type 2 diabetes mellitus, stroke, cardiovascular disease and dyslipidemia (American College of Sport Medicine, 2014). People with good muscular endurance are likely to have better posture and fewer back problems. Studies have shown that the higher an individual's level of muscular endurance, the lower his or her energy cost (Benjamin, 2019). For example, long runs and swims are parts of the methods used in measuring this component

Concept of Fitness

Fitness is the term used to describe the ability to perform physical work by individuals (Peeyoosha, Samruddhi & Sharon, 2018). It also means the ability to live a full and balanced life. A fit person has a healthy and happy outlook towards life. Physical fitness aids in improving the health of the individuals and also helps in prevention of the diseases. Physical fitness is classified into primary and secondary components. The primary ones include cardiovascular fitness, body composition, flexibility, muscular strength and muscular endurance. The secondary components comprise balance, reaction time, agility, proprioception, power and co-ordination. All the components of fitness are interlinked and interdependent on each other. For example, speed is equally dependent on the interaction of reaction time and co-ordination. Physical fitness is essential for human beings to adjust well with their environment as their minds and bodies are in complete harmony.

Concept of Physical Fitness

Physical fitness is the organic capacity of the individual to perform normal tasks of daily living without undue tiredness or fatigue having reserves of strength and energy available to meet satisfactory and emergency demands suddenly placed upon him (Benjamin, 2019). Zvonar, Kasovi´c and Štefan (2019) visualized physical fitness as a major part of physical activity, which is defined as a measure of the capacity to perform physical activity and/or physical exercise that integrates the majority of the bodily functions (skeleton-muscular, cardio-respiratory, hemato-circulatory, endocrine-metabolic and psycho-neurological) involved in body the movements.

Physical fitness is a set of attributes that allows an individual to perform certain standards or intensities of Physical Activity without undue fatigue (Smith, 2018). Physical fitness is defined as the ability to carry out daily tasks with vigor and alertness, without undue fatigue, and with ample energy to enjoy leisure-time pursuits and meet unforeseen emergencies (Zachariah & Alex, 2017). Rensburg et al. (2016) referred physical fitness to as the collective term for a set of physiological attributes, which people have or achieve that determines the ability to perform physical activity. Gronek and Holdys (2013) defined physical fitness as the body's ability to perform heavy or long-lasting physical efforts using large muscle groups without any significant imbalance of homeostasis. After the completion of such an effort all parameters of the muscles return quickly to their resting levels.

Several components of physical fitness have proven to be related with health: cardiorespiratory fitness, musculoskeletal fitness, motor fitness and body composition. Therefore, physical fitness is an important biological indicator of the general health status and quality of life from early ages (Montosa, Vernetta & López-Bedoya, 2018). Aboshkair, Amri, Yee and Samah (2012) stated that Physical fitness has been defined in many ways; however, two definitions are most commonly used. From a physiological point of view, physical fitness is defined as the capacity to adapt to and recover from strenuous exercise. Other scholars gave a more general definition that considers physical fitness as the ability to carry out daily

tasks with vigor and alertness, without undue fatigue, with ample energy for leisure-time pursuits, and to meet unforeseen emergencies.

Some perceived it as a set of attributes that people possess or have achieved. To others, it is a state or condition that permits the individual to carry out daily activities without undue fatigue and with sufficient energy reserves to enjoy active leisure. Physical fitness is defined from different views; some consider it synonymous with cardio-respiratory fitness. Others relate it to muscular strength and endurance. Physical fitness is thus divided into two types namely: health-related and skill-related. Health-related physical fitness includes cardio-respiratory fitness, muscular strength, muscular endurance, flexibility, and body composition (Aboshkair, Amri, Yee & Samah, 2012).

Aboshkair, Amri, Yee and Samah (2012) considered health-related physical fitness as the dynamic state of energy and vitality that allows people to perform daily tasks, enjoy active leisure and cope with unexpected emergencies without undue fatigue. Health-related physical fitness is associated with the physical wellbeing of an individual. Similarly, skill-related components include specific movement skills needed such as strength, power, or endurance. A common assumption is that health-related physical fitness is plausible for all despite their level of motor skills. Physical fitness is a set of attributes that are either health or skill-related. The degree to which people have these attributes can be measured with specific tests.

Benefits of Physical Fitness

There numerous benefits of physical fitness identified by different specialists and organizations in the field of fitness and health. For example, Benjamin (2019) stated that exercise or fitness is not just for Olympic hopefuls or supermodels. In fact, no one is too unfit, too young or too old to get started in exercise. Regardless of age, gender or role in life, one can benefit from regular physical activity. If there is a commitment, exercise, in combination with an appropriate diet, can help provide an overall sense of well-being and can even help prevent chronic illness, disability and premature death. Some of the benefits of increased physical activity or physical fitness as revealed by Benjamin (2019) are as follows: improved health by increased efficiency of heart and lungs, reduced cholesterol levels, increased muscle strength, reduced blood pressure, reduced risk of major illnesses such as diabetes and heart disease as well as weight loss. Similarly, it improved sense of well-being, more energy, less energy, improved quality of sleep, improved ability to cope with stress and increased mental sharpness.

Methodology of the Study

Five (5) tertiary institutions were selected using Purposive sampling process from the five (5) emirate councils of the state of Jigawa State. Twenty (20) volunteered participants from each institution who meet the inclusion criteria were randomly selected to have one hundred (100) participants. The study was carried out using survey design with the use of questionnaire. The questionnaire was adopted from a short version of the International Physical Activity Questionnaire (IPAQ-SV) and the Global Physical activity questionnaire to identify the frequency and duration of walking for seven (7) days.

Results

Table 1: Physical characteristics of the participants

Variable	COE Gumel	HAFP Kazaure	COELS Ringim	BUPY Hadejia	JSPOLY Duts
Age (yrs)	49.2 ±5.9	45.8 ± 3.7	48.7 ± 4.1	49.7 ± 3.1	50.7 ± 4.1
Height(cm)	167.4 ± 6.0	165.2 ± 4.1	168.5 ± 3.3	165.4 ± 5.0	155.4 ± 7.0
Weight(kg)	67.9 ±7.8	70.9 ±7.8	67.9 ±7.8	70.1 ±2.8	69.9 ±7.8
BMI (kg/m^2)					

Participants differ slightly in their age, height, weight and body mass index as can be seen from the table, but this difference might not be significant.

2: Walking activity for nearby before the Fuel subsidy removal

Variable	Yes	%	No	%
Shopping	25	29.8	59	70.2
Market	23	27.4	61	72.6
Mosque	44	52.4	40	47.6

The table indicated that only 25 of the participants (29.8%) reported to have engaged in walking for nearby shopping, before the fuel subsidy removal. while 27.4% involved in walking to the market. and 52.4% utilized walking activity to the mosque before the fuel subsidy removal. The result demonstrated an insufficient walking activity by the staff of tertiary institutions in Jigawa state considering 72.6% and 70.2% respectively who claimed to have not engaged in any walking activity for nearby shopping or market prior to fuel subsidy removal.

Table 3: Walking activity for nearby after the Fuel subsidy removal

Variable	Yes	%	No	%
Shopping	77	91.0	07	8.3
Market	68	80.9	16	19.0
Mosque	72	85.7	12	14.3

From the table, it can be seen that 77 of the staff (91.6%) reported to have engaged in walking activity for nearby shopping after the fuel subsidy removal. Similarly, 80.9 % of the staff revealed to have involved in walking to the market in the present day of post-fuel subsidy removal. While 72 of the respondents (85.7%) claimed to have been walking to the mosque in these days of post fuel subsidy removal. This implied an increase in the engagement of walking activity by the staff of tertiary institutions in Jigawa state following post-fuel subsidy removal in the country.

Table 4: Frequency of the respondents walking per week for nearby before the fuel subsidy removal

Variable	Once	Twice	Thrice	4-times	5-times	6-times	7-times	None
Shopping	32	18	9	5	4	2	2	14
Market	23	21	11	8	6	7	2	8
Mosque	2	5	6	7	8	37	21	0
N (86)								

The result has shown that majority of the staff engaged in walking frequency of once in a week for nearby shopping and market before the fuel subsidy removal. The result indicated higher frequency of walking to the mosque for six and seven times per week. This signified an insufficient engagement in walking activity or physical activity in their daily nearby shopping and market by the staff of tertiary institutions in Jigawa state.

Table 5: Post-fuel subsidy removal walking Frequency per week for nearby

Variable	Once	Twice	Thrice	4-times	5-times	6-times	7-times	None
Shopping	2	9	13	10	35	21	23	0
Market	13	12	8	17	28	41	19	0
Mosque	15	6	13	10	12	7	43	0

The table revealed that majority of the staff engaged in five times walking frequency per week for nearby shopping. Walking frequency of six times per week to the market was revealed by the participants. Also, walking frequency to the mosque was seven times per week. There was an increased in the frequency of walking per week of the staff of tertiary institutions across the three places compared to prior fuel subsidy removal. This signified an increased engagement in walking activity by the staff of tertiary institutions in Jigawa state

Table 6: Time spent walking during traveling before the fuel subsidy removal

Variable	Number of Respondents	%
10 minutes walking	57	67.5
20 minutes walking	12	14.3
30 minutes walking	07	8.3
45 minutes walking	05	6.0
1 hour walking	03	3.6

The table has shown that majority of the staff representing 67.5% of the respondents do engaged in ten (10) minutes walking activity during travelling before the fuel subsidy removal. While, twelve of the staff (14.3%) involved in 20 minutes walking activity during their travelling. Followed by 8.3 % of those who engaged in walking for 20 minutes. Five of the participants (6%) reported to have been engaging in 45 minutes walking, with the least (3.6%) of them that engaged in one hour (1) walking during travelling before the fuel subsidy removal. This signified an insufficient level of physical activity engaged by the staff of tertiary institutions in Jigawa state during travelling before the fuel subsidy removal.

Table 7: Time spent walking during traveling after the fuel subsidy removal

Variable	Number of Respondents	%
10 minutes walking	04	4.7
20 minutes walking	15	17.9
30 minutes walking	46	54.8
45 minutes walking	11	13.1
1 hour walking	08	9.5

The result has shown that handful number of the staff representing 54.8 % engaged in thirty (30) minutes walking activity during travelling after the fuel subsidy removal. Fifteen of the staff (17.9%) reportedly involved in 20 minutes walking activity during their travelling in the present day of post-fuel subsidy removal. While 11 of the staff (13.1 %) engaged in 45 minutes walking. Eight of the participants (9.5%) reported to have been engaging in one hour (1) walking in these days of post-fuel subsidy removal, with only four (4.7%) of the staff that engaged in ten (10) minutes walking during travelling in these days of post-fuel subsidy removal. This implied an increase in the level of physical activity engaged by the staff of tertiary institutions in Jigawa state during travelling after the fuel subsidy removal.

Table 8: Awareness of body weight measurement before the post-fuel subsidy removal and body changes perceived after the Fuel subsidy removal

Variable	Yes	%	Yes	%
Body weight measurement	18	21.4	66	78.6
Body changes experienced	69	82.1	15	17.6

Sixty-six of the participants representing 78.6% reported that they are not aware about their body weight measurement. Whereas, 82% of them claimed to have experience some changes in their body, particularly in relation to being comfortable in terms of their body physique and physiological function.

Discussions

Findings of this study demonstrated an insufficient walking activity for nearby shopping and market before the fuel subsidy removal by the staff of tertiary institutions in Jigawa state. Considering 72.6% and 70.2% of the participants respectively who claimed to have not engaged in any walking activity for nearby shopping or market prior to fuel subsidy removal. It has been noted that, insufficient physical activity is linked with an increase in the risks of many diseases as demonstrated by investigators. This inactivity may likely increase the possibility of their risks for having some diseases. On one hand, there lots of health benefits derived from walking activity. On the other hand, those benefits could not be derived from individuals that had not been engaged in walking activity. This is due to the fact that physical inactivity is associated with the increase in the risk of diseases as revealed by numerous investigators. For example, it was estimated that over half of the body's muscle mass is engaged while walking. physiological changes resulting from walking which benefit health includes cardiovascular fitness, weight loss, reduction in BMI, decrease waist circumference,

overweight, obesity and the risk of many disease. Walking can contribute to weight management and improving better health (Mohammed, 2017).

Similarly, walking helps to decrease the risk of heart attack, stroke, reduce risk of diabetes,stress, anxiety and depression(Biswas, 2017), which are the most commonly health issues affecting individuals of these days. It also, reduces body fat, burns calories. improves metabolism, lowering high blood pressure, decreasing low density lipoprotein (LDL) cholesterol and increasing high density lipoprotein (HDL) instead of taking risky medications with unpleasant sideeffects, improvements in the quality of life and reductions in the medical costs associated with treating these disorders (Mohammed, 2017). Even the mental processes such as thinking, understanding and remembering can be improved following walking as revealed my investigators. Therefore, individuals that are not engaged in walking could likely loss all these health benefits. Thirty (30) minutes of walking daily greatly helps to keep heart and blood vessels healthy (Mohammed, F2017).

The study demonstrated an increased in the walking activity for nearby shopping (91.6%) and market (80.9 %) by the staff of tertiary institutions in Jigawa state, in these days of post-fuel subsidy removal. This meant that as the walking activity increases, the fitness or health benefits would also be increased. For instant, numerous investigators documented the benefits of walking. Such as helps to decrease the risk of heart attack, stroke, reduce risk of diabetes,stress, anxiety and depression (Biswas, 2017), which are the most commonly health issues affecting individuals of these days. It also, reduces body fat, burns calories. improves metabolism, lowering high blood pressure, decreasing low density lipoprotein (LDL) cholesterol and increasing high density lipoprotein (HDL), improvements in the quality of life and reductions in the medical costs associated with treating these disorders (Mohammed, 2017). Even the mental processes such as thinking, understanding and remembering can be improved following walking as revealed many investigators. Therefore, individuals that are not engaged in walking might likely loss all these health benefits.

Also, findings of this study have shown inadequate walking frequencies per week for nearby shopping and market before the fuel subsidy removal by the staff of tertiary institutions in Jigawa state. Many of them engaged in walking once in a week, which is not in-line with guidelines for physical activity recommendations. It has been reported that insufficient frequency of walking activity may not yield significant fitness or health benefit (American College of Sports Medicine, 2018).

Similarly, finding of this study indicated an increased in the frequencies of walking activity for nearby shopping, market and mosque by the staff of tertiary institutions in Jigawa state following post-fuel subsidy removal. This meant that the post-fuel subsidy removal increases the possibility of the frequencies of walking activity, thereby, enhancing fitness and health level. This finding is supported by many studies that emphasize the benefits of frequency in enhancing fitness level. For example, the American College of Sports Medicine emphasizes that the frequency of exercise to exhibit beneficial effects should begin from 3 to 5 times a week, depending on the intensity and duration of the activity.

The finding of this study revealed an insufficient duration of walking activity engaged by the staff of tertiary institutions in Jigawa state during travelling before the fuel subsidy removal. Those that engaged in ten (10) minutes walking activity were the highest with 67.5%. Although, the duration of an activity depends on intensity, but considering their health status this duration is insufficient. It was reported that the time spent (duration) of activity matters a

lot in yielding beneficial effects. The higher the duration the better the benefits, in consideration with intensity.

The results of this study have shown an increase in the duration of walking activity engaged by the staff of tertiary institutions in Jigawa state during travelling following the post-fuel subsidy removal. Handful number of the staff 54.8 % engaged in thirty (30) minutes walking activity during travelling in these days of post-fuel subsidy removal. This finding is in line with the reports of the American College of Sports Medicine and others that stated that 30 minutes' duration of physical activity is sufficient to enhance fitness benefit and health level.

The findings of this study also showed that majority (78.6%)of the staff of tertiary institutions in Jigawa state do not even known their body mass measurement. While, 82% of them had experienced some changes in their body, particularly in relation to being comfortable in terms of their body physique and physiological function.

Conclusion

Findings of this study indicated an insufficient walking activity, inadequate walking frequencies per week, and insufficient duration of walking activity engaged for nearby shopping and market before the fuel subsidy removal by the staff of tertiary institutions in Jigawa state. The study further revealed an increased in the walking activity, frequencies and duration of walking per week for nearby shopping and market by the staff of tertiary institutions in Jigawa state, in these days of post-fuel subsidy removal.

Recommendations

The study recommended for the staff to sustain this lifestyle even if the fuel subsidy is returned, in order to continue benefiting the gain of walking activity for fitness and health. There is also need for enlightenment of the staff on the benefits of walking from exercise specialist.

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