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Sedentary Life-Style as Inhibition to Good Quality of Life and Longevity

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Abstract
The phenomenon of sedentary lifestyle has become a dangerous issue with serious health consequences in modern time. Modern technology has contributed, in no small measure, to a sedentary lifestyle of many individuals with attendant physical, physiological and social health hazards. As a result of lack of regular exercises, many people are now battling with obesity, diabetes, hypertension and overweight. This paper examines the concept of sedentary lifestyle, reasons for sedentary lifestyle, consequences of sedentary lifestyle and the use of regular physical activity to ascertain healthful living and longevity.
Keywords: sedentary lifestyle, physical activity, physical fitness, degenerative disease, longevity.

1. Introduction

Health experts often disagree on matters of nutrition and fitness. Many people get confused by the glut of information on the dos and don'ts of well-being. However, when it comes to the need for moderate physical activities, there seems to be universal agreement among scientists-if you want better health, you must exercise regularly. The lack of enough physical activities has become a serious health problem in modern times, especially in industrialized lands. In the ancient Greece and Rome, the average life expectancy was about 28years. In contrast, by the end of the 20th century, the life expecting in developed countries was about 74years (Babara, 2005).

People today enjoy relatively better health and a longer life span than those who lived centuries ago. This is partly because of the technological revolution. Modern inventions have changed the way we do things and many laborious jobs have become more bearable. The medical profession has made great studies in the fight against disease, improving the health of most individuals. While modern technology has been conducive to better health, with the passing of time, it has also contributed to a sedentary life-style on large segments of the population. Economic transition, urbanization, industrialization and globalization bring about lifestyle changes that promote health disease. Thus, physical inactivity and unhealthy diet are among the principal risk factors. (American Health Association, 2005).

Today, modern workers when compared with old workers may sit in front of a computer most of the day, drive their cars virtually every where they need to go and spend their evening watching the television, especially the movies. In the past lumberjacks burned up many calories a day felling trees and moving logs now watch sophisticated machines do most of the hard work. Many of the world's roads were once built and maintained by men with diggers, picks and shovels. But now, even in developing nations like Nigeria, bulldozers and other heavy equipment are doing the digging and excavation.

Modern technology has also produced a generation of sedentary children. For instance, video games became more enjoyable and more realistic. Children are spending longer times on their games consoles. Similarly, it has been concluded that television viewing and other forms of sedentary entertainment for children are really affecting their lifestyles. In view of the fore-going, this paper examines the concept of sedentary lifestyle; reasons for sedentary lifestyle, the risk factors associated with sedentary lifestyle and the effect of sedentary lifestyle on longevity.

2. Concept of a sedentary life-style

There are various opinions on what constitutes a sedentary life style. However, most experts or several health organizations agreed on general guidelines that apply to most people and that a person is sedentary if he/she does not exercise or engage in some vigorous activities for at least 30mins three times a week; fails to move from place to place while engaging in leisure activities; rarely walks more than 10minutes during the day; remains seated most of the working hours; and has a job that requires little physical activities. Thus, sedentary lifestyle simply means a person is not getting enough regular aerobic exercise or any movement that can raise the heart rate significantly for an extended period of time (US department of health and services, 1996; Wallace, 2008).

Sedentary lifestyle involves the toll of sedentary living which results in inactivity epidemic. Recent studies have found that an increasing number of children do not engage in physical activity on a regular bases. They prefer sitting down and be watching video films, television and playing video games (Buckworth, Janet and Claudio, 2007). Inactivity is more prevalent among girl-child/females than among boys/males. It appears that more than 60% of women do not participate in regular amount of physical activity that can improve the level

of their physical fitness. For all races, women are less physically active than men on average due to some physiological differences (Dianne, 2007; Mayo Clinic Staff, 2009) as illustrated in table 1.

Table 1: **Physiological differences between men and women**

Variables	Male	Female
% of fats	15%	27%
Lean body mass	134.2pounds	107.8pounds
Blood volume	5-6litres	4.5-5litres
Maximum oxygen consumption	5.5-5.9litres per minute	3-3.5litres per minute

Sources:(i) Dianne, H. (2007). An invitation to health (ii) Mayo Clinic Staff (2009)

3. A global perspective of sedentary life-style

Clearly, a program of moderate physical activities is vital to a man's well being. Yet, despite the well-published risk of physical inactivity, a life segment of the world population remains inactive. For instance, between 60% and 85% of the world's population is not physically active enough to gain health benefits, especially among girls and women (World Heart Federation, 2005). The organization claims that nearly two-thirds of children are also insufficiently active for their health. In the USA, about 40% of adults are sedentary and about half the youth between ages of 12 and 21 do not engage in regular rigorous activities.(Wallace, 2008).

A study that examined the prevalent of sedentary lifestyle in 15 European countries found that the percentages of inactive people ranged from 43% in Sweden to 87% in Portugal. In Sao-Paulo, Brazil, about 70% of the population is sedentary. The WHO (2007) reported that an estimated 2million people die every year from causes related to physical inactivity. Many governments and health organizations are seriously concerned over the financial strains that physical inactivity has placed on society. For instance, in Australia, the yearly health care costs linked to physical inactivity amount to about $377million. In Canada, it was reported that during just one year, more than $2billion on health care cost was attributable to physical inactivity. In the United States, the astronomical figure of #76billion on medical cost directly associated with physical inactivity was spent in year 2000(World Health Organization, 2005).

4.1 Reasons for sedentary life-style

Recent technology advancements have reduced the physical demands of day-to-day activities like washing, cleaning and going to work places. Automation has made more time available for leisure pursuits. Unfortunately, most of the new found leisure time is used for sedentary pursuits, whereas human body is designed for strenuous physical activity. This has resulted in the decline of functional ability of the human body. Exercise scientists and health professionals strongly believe that this increased physical inactivity has led to a rise in the incidence of several degenerative diseases such as coronary heart disease (CAD), diabetes, hypertension, obesity and over-weight, osteoporosis, osteoarthritis and some forms of cancer (Kankanala, 2011). This trend has led to the deterioration of health and increase in the prevalence of these diseases especially, among the aged, retirees, top executives (in both public and private sectors). The result is for productivity and even reduced longevity, because of inability to acquire the components of physical fitness, through a thorough participation in moderate-to-rigorous physical activities.

4.2 The risk factors of a sedentary life-style

The drastic reduction in physical exertion has led to many physical, mental and emotional health problems. Inactive children may be at risk of poorer self-esteem, greater anxiety and higher stress level. These children are also more likely to smoke and use handful substances (drugs) than active children. Inactive employees have more days off work than active employees. In latter life (old age), inactive people lose the basic strength and flexibility for daily activities. As a result, many lose their independence and have poorer mental health.

The incidence of type 2 diabetes is rapidly increasing worldwide as a result of the increasing occurrence of obesity and sedentary life-style. Among people of 35years of age and older about 20% of all deaths could be related to a lack of physical activity (Tai-Hing, 2004). He later concluded that the risk from physical activity exceeds that of tobacco smoking and people will witness a similarly large mortality burden in future. It is widely accepted that compared with active people, inactive people tend to have higher risk of strokes and heart attacks, higher blood pressures, a higher risk of developing certain types of cancers, a higher risk of osteoporosis, and a higher tendency to become obese. In short, physical inactivity can dramatically increase the risk of hypertension by 30%. It also doubles the risk of untimely deaths from cardiovascular disease (CVD) and stroke (Mokdad, 2004; American Heart Association, 2005 and Dianne, 2007).

It has been observed on every continent of the globe, even including regions where malnutrition is rife, the number of people who are either overweight or obese is rising at an alarming rate, the major reason is due to the some combination of high-caloric diets and sedentary behaviour that fuels the epidemic of fats. There is no

country in the world where obesity is not increasing (WHO, 2010)

5. Reducing sedentary life-style through regular Physical Activity Regime

Sedentary life-style can be arrested or at least minimized if people invest at least 30minutes three times daily a week in moderate rigorous physical activity most especially aerobic exercises. A warm-up is essential before the beginning of any aerobic activity or strengthening training session. Warming-ups activities prepare the body for exercises by gradually increasing the heart rate and blood flow raising the temperature of the muscles and increasing muscles functions. It may also decrease the chance of sport-related injuries. However, sudden exercises without a gradual warm-up can lead to an abnormal heart rate and blood flow and changes to blood pressure which can be dangerous, especially for older exercise activities such as arm swinging, jogging, running on the spot, neck rotation, and stationary cycling, push up, press up and hip rotation are fully body warm-ups that if performed for 5minutes to 10minutes, will raise the body temperature and prepare the body for aerobic exercises.

Aerobic exercises significantly raise the heart rate and provide benefits differ from those derived from strength training. Aerobic exercises seem to lower body cholesterol level and blood pressure. It also improves cardiovascular fitness and the ability of the heart and lungs to supply the muscle with sufficient oxygen. Improvement in aerobic exercise capacity is related to three essential variables such as intensity, duration and frequency to fully experience its benefits in the body system for longetivity. (Barrnes & Schoenborm, 2003). The guidelines for physical fitness considering frequency, intensity and time are shown in Table 2.

Table 2: **Guidelines for physical fitness of a sedentary life-style person.**

A	B	C
Cardio-respiratory	***Strength***	***Flexibility***
1 Swimming	1. Press-up	1 Body stretching
1 Walking	2 Arm press	2 Toe-touching
3 Cycling	3 Knee pull	3 Cycling in the air
4 Jogging	4 Arm pull	4 Foot Pull
5 re-Bouncing	5 Burpee	5 Lateral head twist
6 Spinning	6 Weight bearing	6 Wall Stretch
7 Aerobic dancing		7 Knee-chest pull

Frequency: Most days of the week. Start with three days and gradually increase frequency.

Intensity: Start at low to moderate intensity and gradually increase to more rigorous efforts over several weeks

A	B	C
60-85% of maximum heart rate	Enough to enhance muscle strength and improve body composition	Enough to develop and maintain a full range of motion

Time/duration: 30-60minutes using gradual progression

A	B	C
20-60mins	8-12 repetition of 8-10 different exercises(minimum)	4 repetitions of 10-30 sec per muscle group (minimum)

Source(s): (i) Adopted from American College of Sports Medicine (1998) (ii) Wallace, L. (2008) American Family Physician.

The individual through aerobic exercise is able to establish a steady state of oxygen consumption at higher rates of work because of his greater mechanical efficiency in performing the required task. This permits him to do more work with a lower expenditure of energy or oxygen consumption. (Klafs and Daniel, 1981).

Sedentary people may benefit from simply increasing the frequency of everyday activities that requires moderate levels of exertion. Such aerobic activities include regular jogging, swimming, speed walk or power walking, bicycling, re-bouncing, lifting and stretching. When a person uses public transportation, he/she should get off a few stops/distances early, and walk the rest of the way. When using your own vehicle, cultivate the habit of parking some distance away from your destination, walk while you talk. You do not always need to be seated when having casual conversations with friends of family members. If a person has a sedentary job, he/she would find opportunities to work in a standing position, and move around whenever possible and to avoid dehydration during exercise, a person should drink water before, during and after an exercise session.

Short bouts of exercise during the course of a day have an addictive benefit. That is, three 10minutes periods of exertion can be almost as beneficial as one 30minutes session. Thus, you do not need to engage in lengthy periods of rigorous exercise in order to reap substantial health benefits. It has been reported that light to moderate activity as well as rigorous activity was associated with a lower risk of experiencing coronary heart disease (Mokdad, 2004).

An active life is a better life. Towards this fact, an active person should accommodate up to 60minutes of physical activity every day. This can be achieved by engaging in several brief exercise/physical activity

sessions spread throughout the day. It is a fact that rigorous activity is associated with lower all-cause mortality; the current emphasis is on promoting moderate activity (Sparling, Philip and Theresa, 2002)

Regular exercises whether recreational or work related, contributes to overall health and well-being of an individual. They offer numerous physical, physiological and psychological benefits that lead to greater quality and quantity of life and longevity of a person. Generally, the benefits of regular physical activity in relation to longetivity (US department of health and human service, 1996) include the following;

- Reduce the risk of dying from coronary heart disease and of developing diabetes, high blood pressure, and colon cancers.
- Help to reduce blood pressure in people who already have high blood pressure.
- Help to maintain healthy bones, muscles and joints.
- Help to control weight, build lean muscles and reduce body fats.
- Help to control joint swelling and associated pains.
- Reduce symptoms of anxiety and depression and fosters improvement in mood and feeling of well-being.
- May enhance the effects of estrogen replacement therapy in decreasing bone loss after menopause
- Help the older adults to move about better without falling and risk fractures.
- Improve digestion and metabolism.
- Improve blood circulation.

Participation in regular exercises shows the changes that are associated with the advancing age loss of lean muscle tissue, increase in body fat, and decrease in work capacity. In addition to lowering the risk of lowering the risk of heart disease and stroke, regular exercises also helps older men and women needed to live independently than in old age. Exercises boosts strength and stamina lessens time in wheelchairs and improves outlook and sense of control.

6.1 Conclusion

This paper examined the concept of sedentary life-style, reasons for sedentary life-style, the global problems of physical inactivity and longevity, the risk factors associated with sedentary life-style and the effects sedentary life-style on longevity. Other areas examined were the benefits of a regular participation in physical activities towards longevity. It is therefore concluded that physical inactivity of a person promotes sedentary life-style with various psychological and health effects. Therefore, regular participation in physical activities ranging from moderate to rigorous intensity promotes longevity and reduces the effects of sedentary life-style.

6.2 Recommendations

Towards the promotion of longevity and reduce the sedentary life-style of a person, it is therefore, recommended that;

1. A person should engage in regular physical activity and reduce sedentary activities to promote health and psychological well-being and a healthy body weight.
2. To reduce the risk of chronic diseases in adulthood, engage in at least 30minutes of moderate intensity physical activity above usual activity at work or home on most days of the week.
3. For most people, greater health benefits can be obtained by engaging in physical activity of more rigorous intensity or longer duration.
4. To help manage body weight and prevent gradual unhealthy body weight gain in adulthood, engage in appropriate 60minutes of moderate-rigorous-activity on most days of the week while not exceeding calories intake requirements.
5. To sustain weight loss in adulthood, a person should participate in at least 60-90minutes of daily moderate intensity physical activity while not exceeding calories in take requirements.
6. To achieve greater physical fitness, exercises must include cardiovascular conditioning, stretching exercise for flexibility and resistance exercise or calisthenics for muscle, strength and endurance.

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