

AGING GRACEFULLY THROUGH PHYSICAL EXERCISES AND HEALTHY LIVING

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Abstract

Aging is a part of human experience. Each new day that passes makes a person one day older. As we age, our ability to burn the same number of calories as we did when we were younger changes. The reason is that the body organs are not as efficient as they use to be, muscle mass diminishes and hormonal changes occur. All of these factors combined result in weight gain, loss of mobility, cardiovascular diseases, short lifespan, inability to lose body fat and spending fortune on medications where graded exercises could be of great help. Hence, regular involvement in physical exercises plays significant role in making the senior citizens age gracefully by preserving the quality of life and independence among them and not only reducing illness and mortality. Therefore, this paper focused on the role of physical activity in healthy aging. It discussed the concept of aging, the meeting point of aging and exercises, diseases associated with aging, importance of exercise and how to motivate the senior citizens to exercise. It was recommended that the aged should avoid sports where there is a risk of collision with opponents or stationary objects.

Keywords: Aged, aging, healthy, physical activity, senior citizens

Introduction

Earlier in the history of mankind, mobility was an essential part of survival: hunting for food, avoiding dangers, and self-defence which all involved and required movement (Maggie, 2012). Today, most daily activities have been delegated to machine and it becomes obvious that the length of the strides required today is shorter than it used to be, the amount of strength required in hands and arm seems too less. A number of things which previously obliged people including the senior citizens to go out shopping or pay bills can today be done from the comfort of the home through mobile phones and internet services thereby encouraging sedentary lifestyle which is very injurious to individual's health particularly the aged (World Health Organization WHO, 2012). According to WHO (2012), physical inactivity has been identified as the fourth leading risk factor for global mortality with the exponential growth in the older population. Mitch (2012) observed that growing old has become the greatest fear of most people and they do everything to look good and feel young again. For instance, people focus on the superficial effects of aging such as wrinkles, excessive body fat and dry saggy skin. Those who have the means spend time and money on medications and surgical procedures neglecting the need for exercises. The truth however is being mobile and nourishing what is inside the body like the heart, muscle and bone will have more long-lasting result. In a study of more than 200,000 adults as study population,

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those who sat for eleven hours or more a day had 40% more risk of dying in the next three years as compared to those who sat for less than four hours a day (Mitch, 2012).

This implies that aside from regular exercises of 30-60 minutes a day, one should stand and move around. This paper looked at the roles of physical activities in healthy aging. Attempt was made to provide answers to the following under listed questions:

- What does aging mean?
- Are there diseases associated with aging that exercises could prevent?
- What are the benefits of exercise to aging?
- What are the meeting points of physical activities and aging?
- How should the aged be motivated to exercise?

Concept of Aging

It is obvious that aging and death are characteristics of all living organisms. They are an integral part of process of life. Each new day that passes makes an organism including man one day older and the older a person becomes, the nearer he moves to that stage of life in which everything in his or her make-up and function decline. According to Udoh (2014), aging is a process which commences at birth and continues through infancy, childhood, adolescence and adulthood to death. It is the continuous wearing away and repair or replacement of body tissues to a stage when the repair and replacement activities can no longer cope with the rate of wear and tear of the body with the consequent decline in functions of body tissues.

Chronologically, a person is deemed fit to be aged when he or she is 65years old or more. However, a person at this stage of life may appear very old or young depending on his or her life style and access to health services. Biologically, a person is supposed to die of old age if disease, accident or other causes of pre-mature death within the environment do not intervene during the aging process. With the process of aging most organs undergo a decline in functional capacity and in their ability to maintain homeostasis. Although aging is slow but it is dynamic in process which involves many internal and external influences including genetic programming and physical and social environment (Matteson, 2000).

Health issues associated with aging

Old age is always a period that is accompanied with serious health problems and challenges as a result of tears and wears of the body which require serious attention if an individual must age gracefully. The following under listed health conditions has been identified among the senior citizens:

1. **Osteoporosis:** Cheng et al., (1997) indicated that it involves loss of bone mineral density which directly increases the risk of bone fracture thereby causing considerable socioeconomic implications in western society Nigeria inclusive. They stressed that age-related osteoporosis begins at around age 40 and continues for the rest of the individual's life span. It is more common in women than in men. Hence, exercise has a role in treating osteoporosis as stated. However the use of weight bearing exercises is considered appropriate for treatment (Cheng et al., 1997).

2. **Cardiovascular Diseases:** These are diseases of the heart and the blood vessels. Berlin and Golditz (1990) affirmed that it is the major cause of death among the elderly in developed nations of the world. It is thought that not only biological changes but also heredity and environmental stress are contributory to the incidence of cardiovascular; diseases in the elderly. Therefore, strong epidemiological evidence indicates that regular vigorous physical activities decrease its rate of occurrence.

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3. **Falls:** The major cause of broken bones is fall which predicts difficulties not only in activities of daily living but also in the whole life and exercises can help to reduce the frequency of falls. Rivara et al., (1997), estimated that every person aged over 65years suffers at least one fall each year while the number of falls among those of 85years and above is about eight times greater than in the age group 65- 69 years.

4. **Senility:** This is a condition characteristic of old age in which the senior citizens are considered feeble-minded or imbecile as a result of the degeneration of the brain tissues due to aging.

5. **Senile dementia:** This is caused by the degenerative process with a large loss of cell from the cerebral cortex and other areas of the brain. The brain shows marked atrophy with wide sulci dilated ventricles (Shephard, 1991). The disorder which is more noticeable from age 65 is a form of insanity characterized by the failure or loss of mental powers.

6. **Metabolic malfunctions:** Many hormones control mechanisms work less efficiently in an older person such as the pancreas and the thyroid gland (Matteson,1997). Clinical consequences of these hormonal changes include the development of maturity onset diabetes, and myxoedema with resulting obesity, poor cold tolerance and depression. However, moderate exercises with some restriction of energy intake are an effective treatment for maturity onset diabetes mellitus, obesity and depression in patient with hypothyroidism.

7. **Insomnia:** This is regarded as inability to sleep which is a common complaint which may be caused by a number of physical and emotional disorders. Udoh (2014) established that with advancing age the total amount of sleep tends to become shorter and sleep becomes more interrupted which can be associated with emotional problems such as depression, anxiety or a phobic state. Hence since moderate exercises induce sleep it is required that the elderly be introduced to exercises during the day.

8. **Reduction in mobility:** This is the reduction in the ability to move from one place to another by the aged, as the musculoskeletal system deteriorates with increasing age, mobility problems increases. According to Ashton (1993), the capacity of human body to make use of strength peaks between ages 20 and 30years and from there on steadily declines with age most significantly between 50 and 60years. In his study he submitted that 30% of men and 50% of women aged 64 and 74years do not have sufficient muscle strength to lift 50% of their body weight. Therefore, stair climbing is one way in which leg muscle strength can easily be improved while similar exercises will sooner or later have positive effects on the quality of everyday life. Values of physical exercises.

According to Mauro (2012), physical activity is any bodily movement produced by skeletal muscles that requires energy expenditure and includes activities carried out as part of normal daily life such as walking, climbing stair, gardening and leisure activities such as dancing and swimming. He further stressed that exercise is a sub-set of physical activity that is planned, structured, and repetitive and includes exercise classes and weight training, Bouchard and Shepherd (2011) defined exercise as a regular, patterned time activity pursued to achieve desirable fitness outcomes such as an improved level of general health or physical performance. They opined that exercise therapy is considered an important component of rehabilitation programmes for the older people with the aim of: reducing pain, improving joint stability, functional ability, muscle strength and endurance, and aerobic capacity. The benefits to be gained

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from sensible physical exercise considerably outweigh the potentially adverse effects. These benefits as further outlined by Bouchard and Shepherd (2011) include:

- Improving functional ability, health and quality of life with a corresponding decrease in course of health care.
- Increasing heart rate, blood pressure and volume carrying food nutrients to active muscles
- Hastening the removal of lactic acid through the kidneys.
- Eliminating carbon dioxide produced during muscular activities
- Inducing deeper breathing and increase oxygen inhalation.
- Activating sweat glands and cutaneous blood vessels.
- The mind and functional coordination of the neuromuscular systems are kept at alert.
- Increasing mobility of the joints, cardiovascular endurance, the tone and efficiency of the muscles as well as the size of active muscle fibres
- It promotes muscular control and skill
- Improves the effectiveness of the individual in meeting emergencies thereby preserving health and avoiding disabilities and possible pre-mature death.

Exercise and Aging

Aging is a complex process involving many variables such as genetics, lifestyle factor; and chronic diseases that interact with one another which greatly influence the manner in which we age. Laukkanen et al., (1997) opined that with the continuing growth of elderly population in modern societies, it has become a matter of increasing urgency to look for ways to maintain and improve the functional ability of the aging people as well as helping them to cope independently in the community and ultimately to raise the quality of their lives since the incidence of man, chronic illnesses and disabilities increases with age. Participation in regular physical activities both aerobic (Aerobic is a form of physical exercise that combines rhythmic aerobic exercise with stretching and strength training routine with the goal of improving all elements of fitness and anaerobic, Anaerobic exercises is similar to aerobic exercise but uses a different form for energy quickly and immediately (Jabeer, 2021). Exercise have served as one of the most effective anti-aging pills ever discovered that could elicit number favourable responses that contribute to healthy aging (Mitch, 2012). The trainability of older individuals is evidenced by their ability to adapt and respond to both endurance and strength training which can help maintain and improve various aspects of cardiovascular functions as well enhance sub maximal performance. Importantly, reduction in risk factors associated with disease status improves health status and contributes to an increase in life expectancy while strength training helps to offset the loss in muscle mass and strength associated with normal aging (Maggie, 2012). There are indications that our grandparents who were used to physical activities such as farming and trekking few kilometres daily when going to farm or market for transactions purposes were more physically fit and lived longer than the modern day aged who are used to watching television, working on computers, reading or sitting in cars, buses, or train without making provision to exercise the body. This has degenerated to the level that it becomes almost impossible to find an aged who is used to sedentary life style to live a healthy life.

Therefore, it is important to encourage the elderly to undertake some forms of exercises daily no matter how mild they may be. Shepherd (1991), affirmed that the person who begins an exercise programme is at a lower risk of sudden death than a sedentary peer. He was of the opinion that, the relative risks of physical activity (death when exercising versus death when sedentary) decrease rather than increase as a person becomes older. He noted that if a well-loved form of exercise does provoke sudden death in a 50year old person then it is a more pleasant end than many alternative ways of dying. He stressed further that though exercise cannot restore

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tissues that has already been destroyed but it can protect the individuals against a number of the chronic diseases of old age.

It has been said by World Health Organization (2002) that physical activities greatly help to correct disability in old age. Regular participation in exercises has been shown to minimize the physiological changes associated with aging, contribute to the overall health and well-being of the individual and assist in the prevention and treatment of disability with increasing age. The author further indicated that well planned exercise has been shown to improve immune system function, insulin sensitivity and glucose tolerance as well as counteract the functional decline of the musculoskeletal system. Hackney (1996) added that exercise in the aging population is said to prevent diseases such as cardiovascular infections, stroke, type 2 diabetes, obesity, hypertension, osteoarthritis, depression and osteoporosis. Similarly, Singh (2004) pointed out in his study that exercise affects the hormonal changes seen with aging. Consequently, the effects on hormonal secretion are dependent on the type and duration of the activity the aged is participating.

Motivating the aged to exercise

It is important to point out that any form of physical activity is suitable for anyone at any age provided that it is not excessive in terms of general or local stress load. Fiataron (1990) confirmed that, the structure and functions of the human body usually adapt to the loads imposed upon them whether these increase or decrease. He further established that When exercise is discontinued and the stress loads disappears, the changes created in the body will also disappear and this varies considerably from few hours to months. Consequently, the results achieved can be maintained even if the duration is reduced provided that the intensity of training remains at the same level. Nevertheless, certain precautions can increase the safety of exercise for the older individuals. For instance, the recommended dose of exercise should not leave the participants pleasantly tired on the following day and the recovery processes should proceed slowly while vigorous training should thus be pursued on alternate days.

In addition, it is important that health care personnel explained why it is necessary, useful or beneficial to engage in physical activities though it may be very difficult to convince older people to adopt more mobile and active ways of life at old age. There may be the need to persuade them with strong affirmation that age is not a barrier to physical activity and that the more they invest in maintaining their capacity to move the more they will enjoy physical independence and interaction with others. The simplest forms of activities to be carried out by the aged may include the following:

- Walking down the street
- Jogging instead of running
- Light gardening round the house
- Washing dishes and putting things away which not only exercise some part of the body but gives sense of self-esteem.
- Climbing the stair instead of taking lift.
- Encouraging the aged to embark on any physical activities that they have interest in earlier in life. (Udoh, 2014).
- Weight supported activities such as swimming and aquatics activities are particularly helpful for those with joint problems.

Bouchard and Shepherd (1994) recommended that in the presence of a specific problem such as illness it must be explained why certain types of physical activity are prescribed while others which may be too demanding should be avoided. They concluded that aging well to which

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exercise can make a substantial contribution is a challenge that brings its own rewards to those who are prepared to face it.

Conclusion

The process of aging begins at birth and terminates at death. Biologically, a person is supposed to die of old age when most of vital organs of the body cease to function. The benefits to be gained from sensible physical exercises considerably outweigh the potentially adverse effects. These benefits include improved functional ability, health and quality of life, with a corresponding decrease in costs of health care, both for the individual and for the society at large. Physical activities involve no immediate drawbacks, although excessively intensive exercise may cause injuries and /or illness and subsequent costs. Though exercises cannot restore tissues that have already been destroyed, but it can protect the individuals against a number of the chronic diseases of old age. Life expectancy is increased, partial and total disabilities are delayed and there are major gains in quality adjusted life expectancy. Exercise is thus a very important component to healthy living for the senior citizens and exercises and old age have a meeting point with multi-benefits. Based on the discussion raised in this write up, the following recommendations were made:

- Prospective senior citizens taking part in graded physical activities should be subjected to both physical and physiological tests such as high blood pressure test, flexibility test, pulse rate test and other relevant tests to determine their limitations and nature of activity to be involved in.
- The seniors should avoid sports where there is a risk of collision with opponents or stationary objects.
- In cases where the weather is extremely hot or cold activities should be taken inside an air-conditioned facility.
- For those who are extremely frail, some physical conditioning can be achieved using exercises taken from a sitting position.
- If there is a history of falls, special care must be adopted in pursuing activities that require a good sense of balance. In individuals with pre-existing articular diseases, walking should be substituted for jogging or running.
- Prescribed activities should be within the capacity of the aged to avoid accident.
- The aged should be given helping hands through thorough supervision during performance.

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