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Physical Activity and Healthy Ageing

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Introduction

Ageing is a natural process, which is believed to begin from conception. However Zander Zanden(1997) opined that aging is that period in life when the bodily functioning begins to decline and that the onset varies from one person to another; depending on both genetic and environmental factors. Ladies and gentlemen, please permit me to state that within the context of this presentation the following concepts: Ageing, Aged, Elderly, Old age will be used interchangeably. This is because they have been so differently used by different authorities, as found convenient by them. Moreover, strict separation of the concepts is usually not practiceable. As people age, they experience a gradual accumulation of molecular and cellular damage that results in a general decrease in physiological reserves. These broad physiological and homeostatic changes are largely inevitable, although their extent will vary significantly among individuals at any particular chronological age. Interestingly, evidence abound pointing to the fact that a link between low physical activity and disorders, such as joint problems, hypertension, diabetes, cancer of the large intestine, depression and anxiety, has also been established in older people. Therefore, bodily functions must be put to use and skills must be maintained for them not to regress. Hence, physical activity and exercise play a crucial role in attaining and preserving healthy ageing.

Ageing

Historical perceptions and cultural norms have also been known to influence what constitutes being considered old. In the early nineteenth century, old age was considered to begin at 40 years, whereas in the last decade 65 years of age has been referred to as the upper end of middle age (McConatha, Schnell, Volkwein, Riley and Leach, 2004). This may be attributable to the steady increase in life expectancy. What constitutes being old can also vary between countries. For example, old age is considered to begin much earlier in Turkey than in North America and Germany where old age is perceived to start at a comparatively later chronological age (McConatha et al. 2004).

In defining the older person, most developed countries have generally accepted the chronological age of 65 years as the definition of an 'older person' (World Health Organisation (WHO) 2009). In addition to chronological age, the age of a person can be defined in many ways, encompassing biological, psychological and socio-cultural processes. For example, age can be defined by the social roles one occupies; by a person's level of physical ability; by a subjective assessment of how old one feels, as well as their chronological years (Barrett and Cantwell 2007).

On a general note, the WHO has traditionally used age group of 65 years and above to designate the elderly. Bringing it down to specifics, this is also the age at which retirement from active employment is generally expected in Nigeria. Being logical about the issue, Berger (1994) had stressed that the time at which old age begins is ill-defined and that it varies according to period, place and social rank. Berger elucidated the above assertion by explaining that in the pre-industrial societies, that life expectancy was relatively short and onset of old age was much early.

Aging past the sixth decade is generally accompanied by declines in functional ability or the ability to complete functional tasks. These declines have been attributable to symptoms of chronic disease and declines in musculoskeletal and cardiovascular functioning.

Old age is characterized by adverse life conditions that include physical, social, psychological, medical, economical and emotional problems. Uchino, Arnold and Levin (1992) also noted that a large number of the aged develop chronic illnesses and disabilities that require ongoing medical care, such as neuro-degenerative disorders (dementia), cardiovascular disorders; arteriosclerosis, Alzheimer's disease, Cancer, among others.

There are also physical changes that become obvious in old age such as change in skin texture, loss of skin elasticity and moisture, decrease in subcutaneous fat and muscle tissue. In addition, wrinkles appear on the face, the hair turns grey and coarse; there is alternation in the discs of the spinal vertebrae causing the spine to bow; producing a stooping posture. There is also visual inefficiency and marked loss of hearing.

Moreover, much of what seems to be biological age changes are brought on by environmental factors, such as wear and tear caused by incorrect patterns of movement, unsuitable work postures, unhealthy eating habits, inactivity, smoking and so on. One such example is osteoporosis or borne-brittleness, which leads to

decalcification of the skeleton and a higher risk of broken bones. This is basically a biological ageing process, but it can be substantially exacerbated by lifestyle factors.

On the other hand, Bursse (1996) opined that there are two types of aging and that they are primary and secondary. Bursse explained that primary ageing refers to a genetically regulated set of biological process that occur over time resulting in gradual deterioration of the organism, while secondary ageing consist of the decrease in structure and function of the body organs caused by diseases, trauma and other environmental factors that are not directly related to heredity.

Ironically, many of us have a subconscious and irrational fear that one day we will find ourselves old. In fact, the realization is as if we will suddenly fall off a cliff. It is as if what we will become at old age had little to do with what we are now. However, it is important to highlight that: at no point in time do people stop being themselves and suddenly turn into "old people." No wonder Shock (1985) observed that ageing does not destroy the continuity of what we have been, what we are and what we will be. This simply means that ageing as a concept, like "health", is a continuum. This notion has been aptly captured by (Ene, 2004) who noted that ageing refers to normal changes in body functions that occur after sexual maturity and continue until death.

Health Issues and Diseases of the Elderly

The incidence of chronic diseases (heart conditions, arthritis, diabetes, varicose veins and so on) rises steadily with advancing years (Hess and Markson, 1981). On the other hand, Berleen (2004) noted that the most common long-term diseases in elderly people affect their circulation and motor organs. The later are often associated with joint problems, backache or leg ache. Moreover, it is noted that mental problems and disorders are common. There is also the very likelihood of hearing and sight impairments. However, due to factors intrinsic in the individuals and varying environmental influences ("the nature and nurture flux"), the disparities are striking between different social groups. However, only among the very old do these disparities start to even out (Berleen, 2004).

A summary of some health issues and diseases of the elderly is presented in this section as discussed by the Stockholm Gerontology Research Centre (SGRC), 2001;

Cardio-vascular Disease

According to the National Board of Health and Welfare's Healthcare (NBHWH) (1998), nearly half the people over the age of 65 in Sweden have some form of cardio-vascular disease. In association, it is found that the most important factors are smoking, high blood fats, hypertension and obesity. Diabetes and hereditary factors also increase the likelihood of contracting coronary disease. The preventive measures to combat cardio-vascular disease should ideally be implemented earlier on in life since arteriosclerosis starts in early middle-age. Hence, there is the positive effect of stopping smoking regardless of how old a person is.

Sleep apnea is one of the health problems of the elderly ones. A survey of the sleeping habits of almost 2,000 people in Dalarna indicates that men who have difficulty falling asleep run approximately three times the normal risk of dying from a heart attack within 12 years (Jerker Hetta, et al).

Heart failure is caused by the heart's inability to pump blood. The symptoms include fatigue and breathlessness upon exertion. In serious cases, fluid collects in the legs and breathlessness occurs even at rest, especially when lying down. This prevalence of heart failure increases dramatically with age and occurs in about 10 percent of those who are 80 years old or more. Although, we do not have statistics to the best of our knowledge, of people with the heart failure in Nigeria but heart failure is one of the most important causes of morbidity in older people and implies a significant deterioration in the individual's quality of life. The condition can occur after a heart attack or onset of some other cardio-vascular disease. The risk factors are approximately the same for other cardio-vascular diseases. Apoplexy or stroke is another of elderly widespread diseases. It occurs either as a result of a blood clot on the brain, a cerebral infarct or hemorrhaging.

Cancer

Cancer is the collective name for more than 200 different diseases of varying character. The risk of contracting cancer is closely related to age and the increase in average life expectancy is in itself an important cause of the rise in the number of cases. The most common form of the disease among women is breast cancer and among men is cancer of the prostate. Other common forms are cancer of the lung and of the gastrointestinal.

A characteristic of many cancer forms is their long latency period that is the time that elapses between exposure and contraction. This means that preventive measures combating cancer must be implemented early on and will only have an effect in the long term. Many measures aimed at stemming the development of cancer, such as those encouraging people to adopt better eating habits-increased fiber content, less fat, more fruit and vegetables – stop smoking and take regular physical activity, also have immediate effects on health and well-being, which is one reason why they should be implemented regardless of age.

Diabetes

Type 2 diabetes is currently one of the most rapidly increasing diseases. This is partly related to an increasing number of people and particularly men being overweight. Diabetes sufferers are more likely to contract cardio-vascular diseases and there is an increased risk of damage to various body organs, in particular the eyes, nervous system and kidneys, and of foot sores. Studies have shown that it is possible to dramatically reduce the onset of diabetes in glucose-intolerant individuals by changing their diets and increasing physical activity. This is especially important for very fat people.

Osteoarthritis

Osteoarthritis destroys articular cartilage, causing disability and pain. One of the problems of osteoarthritis is that the disease can only be detected by x-ray at a very late stage of development and surgery is often the only effective treatment available. The disease is more common in older people and among women and physical activity is the most effective preventive measure.

Accident Injuries

Fall injuries among older people constitute one of today's most widespread public health problems. Fall accidents mostly happen on level floors. Getting up from bed or a chair or moving from one room to another can lead to a fall. Surfaces such as slippery floors or loose rugs coupled with poor footwear increase the risk of fall accidents. For fear of falling again, many avoid moving at all, which further increases the risk since they become instable and have a poor sense of balance. Only half of hip fracture patients have regained their previous functional status one year on from the accident. Many never return to their previous homes.

The fact that Injuries in the elderly population are on the increase despite their improved health in general may seem a contradiction in terms. The contributory causes of this include less physical activity and a less varied diet, particularly among old people living in urban environments.

Osteoporosis

Osteoporosis is a skeletal disease characterized by low bone-mass and changes in the micro-structure of the skeleton, leading to increased frailty and a greater risk of fracture. It mostly affects post-menopausal women.

The risk factors of osteoporosis which we can influence include insufficient physical activity, smoking, alcohol abuse, low calcium intake and oestrogen deficiency. In fact it is noted that someone who takes exercise and supplies the body with plenty of calcium early on in life builds up a higher maximum bone mass.

Hearing Impairments

Hearing impairment is one of the most common disabilities. Every tenth person is expected to suffer from it and eight of these ten are over the age of 60. Between 25 and 40 percent of all those over 65 are thought to have impaired hearing and this percentage increases dramatically with age. It is clearly more common among men than among women. More than two-thirds of 90-year-olds who otherwise enjoy good health have a hearing problem. The prevalence of impaired hearing rose between 1980-83 and 1994-97, according to the SCB ULF surveys. This was particularly true among men.

Hearing impairment is mostly caused by changes in the inner ear, the auditory canals and the brain's hearing centre, coupled with genetic factors, disease and "everyday noise" affecting the organ of hearing. Hearing loss often occurs gradually over a number of years. It can also be due to obstructive wax, which is easily rectified.

Sight Impairments

Nearly 15 percent of elderly people over 65 are estimated to have impaired sight. Half of these suffer from such a severe sight impairment that are unable to read the newspaper even with the aid of spectacles. As is the case with hearing impairment, age-related changes, especially cataracts and glaucoma, cause this deterioration in sight.

The consequences include a greater risk of all accidents and fractures, more restricted daily activities, social isolation and poor self-confidence. As with hearing impairments, this condition may lead to a poorer sense of reality and exacerbated mental health problems if psychosis occurs.

Incontinence

Urinary incontinence is one of our most widespread public health diseases and can be defined as sufficient involuntary urine leakage as to cause a social and hygiene problem. The known risk factors of urinary incontinence in women include childbearing, excess weight, gynaecological surgery, defective connective tissue, long-term constipation, chronic bronchial diseases and heavy lifting. In men, the two most important, known risk factors are prostate conditions and surgical removal of the prostate. Temporary incontinence can be caused by coughing, laughing, walking, lifting or other strenuous exercise.

All in all, there are a number of different risk factors for incontinence. Urinary incontinence in the very old is often associated with other serious disabilities such as dementia and stroke. Preventive measures include kegel exercises, which many women learn in connection with childbirth.

Musculoskeletal Pain

Although we are aware that many of the elderly population experience aches and pains, however, there are still considerable gaps in our knowledge when it comes to the causes of musculoskeletal diseases. These types of disorders cause the most sick leave, long-term incapacity and early retirement due to disability and give rise to considerable pain and suffering. Ache and pains are common among elderly people, mostly because the prevalence of diseases and conditions that cause pain, such as rheumatoid arthritis, osteoarthritis and cancer, increases with age.

Mental ill-health

A review of various disabilities revealed that older people, who find it difficult to manage their daily activities, run a greater risk of developing some kind of mental illness. Other risk groups include people who have met with painful life experiences or have a poor social network. Mental ill-health is more common among single people. Social isolation affects mental well-being. The risk of older people being lonely is considerable when friends and life partners die. A common belief in society, expressed not least by older people themselves, is that memory functions deteriorate as part of the normal aging process.

There are also relatively strong links between the level of social and physical activity and memory capacity.

Dementia conditions are all slightly different, but all are characterised by a gradual deterioration in intellectual functions leading to social consequences. Alzheimer's disease is the most common form of dementia.

At this point, it is important to highlight that all through the review of health issues/diseases of the elderly, one prominent point being made is the fact that in almost all the issues, physical activity (exercise) can be used to prevent the onset, and or ameliorate the progress of existing ones. Hence engaging in physical activities is a sine-quo-non to Healthy/Active Ageing.

Healthy/Active Ageing

It is a statement of fact that people can feel well despite illness and disability. This assertion finds support in the age long definition of "Health" by the World Health Organization (WHO) that health is a state of moral, social, physical well being and not merely the absence of disease and infirmity. Healthy old age, or what is often referred to as "healthy aging", is characterized by good health in advanced years with little or no disability, a high level of personal satisfaction, active involvement in life, meaningful pastimes, sustained powers of perception, good motor skills, psychological well-being and a feeling of goal achievement (Beard and petitot, 2011).

According to Peel et al, (2004), the term healthy ageing (HA) is widely used in academic and policy circles, yet there is surprisingly little consensus on what this might comprise or how it might be defined or measured. Furthermore, HA is often used to identify a positive disease free state that distinguishes between healthy

and unhealthy individuals. This is problematic in older age because many individuals may have one or more health conditions that are well controlled and have little influence on their ability to function.

Therefore, in framing the goal for a public-health strategy on ageing, WHO (2015) considers *Healthy Ageing* in a more holistic sense, one that is based on life-course and functional perspectives. The report defines Healthy Ageing as the process of developing and maintaining the functional ability that enables well-being in older age. Accordingly, functional ability comprises the health-related attributes that enable people to be and to do what they have reason to value. It is made up of the intrinsic capacity of the individual, relevant environmental characteristics and the interactions between the individual and these characteristics. Intrinsic capacity is the composite of all the physical and mental capacities of an individual whereas; environments comprise all the factors in the extrinsic world that form the context of an individual's life.

Peel et al (2004) summarized that Healthy Ageing starts at birth with our *genetic inheritance*, and that the expression of these genes can be influenced by experiences in the womb, and by subsequent environmental exposures and behaviours.

According to Berleer (2004), the World Health Organization (WHO) has drawn up a policy framework called "Active Ageing", which was adopted at a UN meeting in Madrid in the spring of 2002. The report points to three cornerstones of active ageing: participation, health and security. Participation means the importance of creating opportunity for work, pastime and cultural activity. WHO uses the standard age of 60 to define "older" people. This report uses 60 since this is currently the most common formal retirement age for civil/public servants in Nigeria; except those in the tertiary educational institutions and the judiciary.

The above assertion from WHO as evidence of the use of Health/Active Ageing simultaneously. Appreciation from family and friends as well as feeling satisfied with work and leisure time, possible salary and one's home are also important. It is common knowledge that overall living conditions, including but not limited to financial situation, housing, which social class one belongs to, among others, have a considerable bearing on health.

It is important that one prepares for old age. This objective can be effectively achieved when one has done all, within his powers, to maintain a moderate youthful life. This is especially fundamental, realizing that maintaining a physically active life style from a young age also appears to help prevent some disease conditions, including, but not limited to onset of osteoporosis, later in life. No wonder, Okafor (2001) pointed out that there is the need to invest in health and promote it, more so in schools and throughout the life span.

However, there are factors that influence Healthy/Active Ageing. Some of these factors are to some extent, dependent on our behaviours.

Key Behaviours that influence Healthy/Active Ageing

Most of the disease burden in older age is due to non-communicable diseases; therefore the risk factors for these conditions are important targets for health promotion. Accordingly strategies to reduce the burden of disability and mortality in older age, by enabling healthy behaviours and controlling metabolic risk factors can therefore start early in life and should continue across the life course. The risks associated with these behaviours and metabolic risk factors continue into older ages, although this relationship may attenuate. Strategies to reduce their impact continue to be effective in older age, particularly for reducing hypertension, improving nutrition and stopping smoking. Furthermore, there is evidence that reducing exposure to cardiovascular risk factors can also reduce the risk of at least some types of dementia.

Physical Activity and Healthy Ageing

Physical inactivity in older adults is a major public health concern. This is basically because engaging in physical activity across the life course has many benefits, including increasing longevity. For example, a recent pooled analysis of large longitudinal studies found that people who engaged in 150 minutes per week of physical activity at moderate intensity had a 31 percent reduction in mortality compared with those who were less active. Moreover, the benefit was greatest in those older than 60 years.

The most common form of exercise among men was walking, followed by gardening, building work and outings into the countryside, and gardening, outings and work-out among women.

In addition to the above, a large number of studies confirm the link between a person's level of physical activity and functional health and the benefit of early preventive measures to combat unnecessary disability in old age. According to Berleen (2004), several general studies from the United States, and one from Norway, point to strong evidence claiming that exercise reduces the risk of cardio-vascular disease and premature death. These

general studies quote other surveys indicating that exercise is beneficial for people over 65 and that there are health benefits to be derived even when starting to exercise later on in life, whilst it is harmful to stop taking exercise.

Physical activity is very important to improve and maintain physical functioning in daily life. By physical activity, we mean not only exercising, but every type of movement during daily behavior. This simply means that an active lifestyle is not limited to a high level of physical activity. As such, older adults should maintain an active lifestyle, not only by means of physical activity, but also by being engaged in their social environments. This is achieved by engaging in leisure activities, contributing to the overall quality-of-life of the older adults.

Benefits of Physical Activity

Physical activity is good for everyone, and is of particular benefit in preventing cardiovascular disease. Early studies indicated that physical activity during work or leisure reduced the risk of heart attack, a finding subsequently confirmed in many studies including the Framingham heart study (Hardman, 1991).

Physical activity has multiple other benefits in older age. As noted by Peel et al (2004) these include improving physical and mental capacities (for example, by maintaining muscle strength and cognitive function, reducing anxiety and depression, and improving self-esteem); preventing disease and reducing risk (for example, of coronary heart disease, diabetes and stroke); and improving social outcomes (for example, by increasing community involvement, and maintaining social networks and intergenerational links).

Levels of Physical Activity among Older Populations

Unarguably, compared with younger adults; PA is lower among older adults across most measures. Surveys such as the National Health Interview Survey and the Behavioral Risk Factor Surveillance System concluded that fewer than one third of persons aged 65 years and older participate in regular, sustained PA. Compared with younger cohorts, fewer older persons meet current PA recommendations of aerobic activity of moderate intensity (example. brisk walking) for 30 minutes, 5 or more days per week.

In addition, physicians recommend that persons engage in resistance training 2 to 3 days per week (American College of Sports Medicine, 1998). Older adults are less likely to engage in vigorous PA or resistance training than in aerobic activities, and walking is the most common activity that they report doing.

There are numerous obstacles to determining the overall level of PA among older adults, including a lack of national surveys tailored to older adults; inconsistency in defining PA across surveys; considerable variation in measures often reflecting different domains of PA and methods used to assess PA; and a failure to adequately assess the frequency, intensity, and duration of specific activities (Harada, Chiu, King, and Stewart, 2001; Washburn, Heath, and Jackson, 2000).

Benefits of Physical Activities for the Elderly

Among other benefits, it is noted that PA in older adults improves pathology; impairment; and functional limitations, including muscle strength, aerobic capacity, flexibility, balance, walking, and physical function. There is consensus that regular PA reduces the risk of chronic conditions such as coronary heart disease, hypertension, colon cancer, type 2 diabetes, and osteoporosis and that these benefits extend into old age (American College of Sports Medicine, 1998). Evidence-based reviews have concluded that PA may help prevent breast cancer (Friedenreich, 2001) and hypertension (Kokkinos, Narayan, and Papademetriou, 2001), and improve insulin resistance in non- diabetics and persons with type 2 diabetes (Ryan, 2000).

Factors Influencing Physical Activity Participation by the Elderly

Following the organization outlined by King (2001), this section reviews the psychosocial/demographic, program- related and environmental (social and physical) correlates of PA in older adults. It is important to understand the correlates of PA because it serves several purposes. The study of nonmodifiable correlates of PA (for example, age, gender, race) allows identification and targeting of subgroups that are least active, at greatest risk of adverse health outcomes, and in greatest need of tailored PA programs.

Psychosocial/ Demographic Correlates of Physical Activities

Several reviews which have described psychosocial/demographic correlates of PA in older adults (Brawley, Rejeski, and King, 2003; King, 2001; Schutzer and Graves, 2004; Wilcox, Tudor- Locke, and Ainsworth, 2002). Taking all findings into consideration, it can be inferred that Age, female gender, race/ethnicity other than White, rural residence, overweight status, living alone, and being a smoker are negative correlates, whereas higher income and education are positive correlates (King, 2001and Wilcox et al, 2002). Although

changes in health status (for example, a heart attack) may be a cue to adopt a healthier lifestyle, poor health is consistently associated with a more sedentary lifestyle (Brawley et al.; (Schutzer and Graves; 2004).

Poor baseline health and decreasing health and functioning predict lower adherence rates among older adults in PA programs (Schutzer and Graves, 2004). Self-efficacy for PA (that is, confidence in one's ability to be regularly active) is a consistently positive correlate of PA in older adults (King, 2001; Schutzer and Graves, 2004). Self- efficacy for PA is lower and attitudes toward PA appear to be more negative among older rather than younger adults and among older women rather than older men (Wilcox et al, 2002). There is some evidence; however, that self-efficacy may be more important in initiating than maintaining activity (King, 2001). Other psychological influences include more positive attitudes toward PA, greater perceived benefits, and fewer perceived barriers

Program related factors

Older adults prefer activities that are convenient, including walking and gardening, and that most prefer (and adhere better to) lower rather than higher intensity activities (King, 2001). Furthermore, King reported that a majority of elders prefer activities that can be done on their own and near or in their home, although older women are more likely than older men to prefer group-based PA. It is important to note that the lack of access to low-cost community-based programs tailored to the needs of older adults is a barrier to participation.

Environmental Correlates of Physical Activities in Older Adults

The role of the natural and built environments in promoting or limiting PA is an exciting and growing area of study (Humpel, Owen, and Leslie, 2002; Sallis, Bauman, and Pratt, 1998). Research has shown that older adults living in neighborhoods with problems (such as, heavy traffic, noise, trash, poor lighting, and lack of public transportation) experienced greater loss of physical function over a 1-year period; relative to older adults living in neighborhoods with no problems (Balfour and Kaplan, 2002). This loss of function may be associated with fewer opportunities to be physically active. Hence, Elders reporting at least one neighborhood problem were significantly less physically active than those reporting no problems. Similarly, Humpel, Owen and Leslie, 2002) have reported that proximity to PA resources (example, paths and facilities), pleasant scenery, perceived safe environments, and the availability of sidewalks and commercial goods and services have been associated with greater levels of PA in older adults.

Physical activity recommendations for older adults

Numerous organizations have made recommendations for physical activity in older adults. In an attempt to provide consensus, the National Blueprint for increasing physical activity among adults age 50 and older has been developed by a collation of over 50 national organizations (http://www.agingblueprint.org/). This condition has developed an Active Ageing Toolkit, which is designed to provide "specific interventions and programs to improve health and functional ability, promote independence, and prevent chronic disease and disability in older adults". This Toolkit includes strategies to promote physical activity, assessment tools to individualize physical activity programs, evidence-based physical activity programming options, guidelines to modify, progress, motivate, and resources for information and referral. This Toolkit recommends four components of a physical activity program for older adults; cardio respiratory, flexibility, strength, and balance activities. The American College of Sports Medicine in its position statement in the area (Borg, 1998) states that older persons are capable of achieving fitness improvements similar to those documented for younger adults in all of these components of physical fitness. The Toolkit recommends cardiorespiratory (aerobic) physical activities to improve endurance and decrease chronic disease and mortality.

The next two components of a physical activity program for older adults include: flexibility and strength activities. The Toolkit recommends that older adults perform flexibility activities before and after each cardiorespiratory or strength training routine. Engaging in flexibility activities improves range of motion for activities of daily living and possibly prevents pain or injury. Five to ten flexibility activities of the major joints of the arms, trunk, and legs should be performed in a static stretch for 10 to 30 seconds and repeated three to four times per session for each stretch.

The final component of a physical activity program for older adults consists of balance activities. Balance activities are designed to improve postural stability and gait and reduce the risk and fear of falls. Balance activities involve maintaining standing and postural stability under a variety of conditions, including static (Stationary) and dynamic (moving).

Types of Physical Exercises

Physical exercises are prominently assumed to be the only form of a PA. The aim of every Physical exercise is for the practitioner to achieve physical fitness and overall wellbeing. Hence, fitness is a lifelong commitment because the physical benefits of getting fit and staying that way are numerous. Generally, it is accepted that exercise firms' muscles, strengthens the heart and lungs, improves blood circulation, builds strength and endurance, burns off excess calories, strengthens bones, limbers up the joints, improves digestion, and relieves constipation. The benefits enumerated above can be achieved through engagement in different forms of exercises including, but not limited to aerobics and anaerobic, walking, running, biking, dancing, swimming, rowing and jumping rope.

Aerobics and Anaerobics

Exercises that involve steady, rhythmic motions of your major muscle groups and burn oxygen for more than a brief spurt are considered aerobic because they force the heart and lungs to work at anywhere from 60 to 85 percent of their capacity. Running is a good example of an aerobic exercise. Simply put, aerobic exercise increases the heart rate. This in turn increases the blood circulation, which brings more oxygen to the muscle. On the other hand, anaerobic exercise isolates the movement of muscles but does not add any extra oxygen to the blood. Isometrics or weight lifting is good examples of anaerobic exercises. They were designed to increase muscle size and strength, but not to necessarily help to oxygenate your blood.

Other forms of Physical exercises

Walking

One of the main benefits of walking is its mobility. Other than a good pair of shoes, you need no equipment to engage in walking exercise. Moreover, it can be done anywhere you are. This is particularly good for those whose jobs include a great deal of travel and are concerned about disrupting their exercise routine. It would take ninety minutes of walking to achieve the same aerobic benefits offered by a thirty-minute run. However, the stress on your joints is much lower, and the chance of injury is minimized.

Running

The benefits of running are tremendous. Runners seldom have problems keeping their weight down, as it is a highly effective form of aerobic exercise. In addition, the heart's health is vastly increased by the influx of oxygen-rich blood due to increased circulation. The practitioner's immune system is improved, and the musculoskeletal system is also strengthened. Also, running is incredible for reducing stress which many feel is at the basis of all illness. Best of all, running requires little investment in equipment, with the exception of good running shoes, which are most important.

Biking

Biking is another versatile exercise. Biking can be done outdoors during good weather, and one can also use an indoor exercise bicycle during inclement weather. This form of exercise strengthens the anterior muscles in the front of the legs, thereby helping to prevent injuries to the rear leg muscles and the knees. Bicycling also puts less stress on the joints and muscles, which makes it perfect for those recovering from arthritis.

Dancing

Dancing is by far the most social way to get ones aerobic training. Among other benefits, it lifts ones spirits, increases vitality, and one gets to move with his/her feelings; such that it becomes an expressive exercise as well as an aerobic one.

Swimming

Swimming is a yet incredible effective way to exercise. As a result of the water's buoyancy, your body's "real" weight is minimized, thus making it easier to move. This is why so many sports doctors are recommending swimming for those that are recovering from injuries. By exercising in the water, you can increase your flexibility while building incredible powerful arm, shoulder, and rear leg muscles. It is important to point out that swimming is versatile and less injury-inducing than many other aerobic activities. Be sure to wear a bathing cap or ear plugs to protect your ears. Moreover, good quality goggles add immeasurably to your swimming comfort.

Jumping Rope

This aerobic exercise is perfect for those whose goal includes losing weight. Jumping rope will burn more calories per minute than many other aerobic exercises. It may look easy, but, in fact, it is a tough cardiovascular workout. To proceed, you must begin very slowly and build up your tolerance over a long period of time. However, there is a note of cautions there: if you work out too strenuously at the beginning, you could seriously injure your lower back and legs.

To proceed; at first, just jump for two to four minutes. If you are heavier or really have not exercised in quite a while, do even less. Begin by walking or running in place, picking up speed until your feet are coming off the ground at a fast pace. Be careful to jump on a surface that ''gives,'' such as a wooden floor or carpet. Try not to pound into the floor heavily; be as light-footed as possible.

Procedure for Physical Exercises (Warm up and Cooling down)

Warm Up

It is important that one eases into his workout sessions. The point being made is that no matter what your chosen sport, no exercise program should begin without a warm-up. All that is required is just a few minutes of light activity which gets your muscles loosened and, most importantly, warmed up so that you may exercise more vigorously without fear of injury. By doing this, your body does warm up in the truest sense of the word-increased activity starts the blood flowing to the muscles and your body begins to feel both more alive and more relaxed.

The Low-Down or Cool-Downs

Most experts agree that a cool-down is even more important than a warm-up for the following reasons.

A few-minutes cool-down:

Allows the heart rate to slow down gradually. It is very dangerous to suddenly stop after vigorous exercise like jogging. Deaths involving joggers are rare, but when it happens, you usually find that the runner didn't do a lengthy coo-down and then went into cardiac arrest.

It significantly reduces the build-up of lactic acid, which causes cramps, sore muscles, and pain. Even if you feel okay at the time, your body still has not gotten rid of all the waste products produced by exercising, such as lactic acid. That's why you frequently feel so sore the day after vigorous exercise-the lactic is still in your muscles.

It prevents blood from pooling in the legs. Again, joggers come to mind. After a hard run, you have so much blood pooling in your legs, combined with great amounts of adrenaline coursing through your body. This affects the heart, sometimes fatally. The easiest solution is to simply keep moving for about five to ten minutes. Nothing strenuous; just walk around for a bit. That will do the trick.

Conclusion

Although different outfit and authorities set old age differently, (varying between 60 years and 70 years) but there is no generally acceptable age for specificity. However, evidence abound that the proportion of the global population aged above 60 years old is growing more rapidly than any other age group, creating several socio-economic challenges. Therefore supporting independent living becomes a priority, in order to enhance quality-of-life of the older population, for as long as possible. Much as we agree that part of this support should come from the community and public health policies, however, a big part of the responsibility is for older citizens themselves to assume an active role in prevention and management of their health. It is based on this premise that physical activity is considered to improve and maintain physical functioning in daily life, leading to healthy/active and successful ageing.

Recommendations

Based on the foregoing, it is recommended that:

Older people should engage in physical activities; even if it is just taking a walk, doing the housework or tending the garden.

As researchers in Physical Activity, Public Health and Ageing, we are endeared to focus attention to develop valid and reliable measures that accurately reflect the type, intensity, and duration of PA older adults perform regularly that can be used for surveillance systems and develop age-appropriate guidelines for PA for older populations differing on levels of frailty and the presence of specific chronic illnesses. These guidelines should specify the frequency, duration, and intensity for aerobic PA and frequency and intensity for resistance PA necessary to obtain health benefits in these populations.

The Crux of the Matter

So far, relevant literature point to special contributions made by researchers in ageing, physical activities and public health, as well as the challenges that is ahead. All through, the review has revealed that potential exists to develop programs and policies to enhance PA in a predominantly sedentary and increasingly diverse aging population. Strictly speaking, although investigators have made advances, but it is obvious that considerable gap remains especially in our own time.

Consequently, it is my firm belief that the outcome of this conference would do its best to close the yawning gaps; thereby providing further insights to the intricate web around the key concepts Ageing and Physical Activities.

Ladies and gentlemen, it is my firm belief that the outcome of this conference would contribute its quota towards closing the yawning gaps; thereby providing further insights and baseline data to tackle the intricate web around the key concepts: Ageing and Physical activities.

Thank you for the audience given to me.

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