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Ahamed Faiz PA
 MPhil Scholar SRM IST
 Chennai, Tamil Nadu, India

Healthy life for older adults (60+)

Ahamed Faiz PA

Abstract

As an older adult, regular physical activity is one of the most important things you can do for your health. It can prevent many of the health problems that seem to come with age. It also helps your muscles grow stronger so you can keep doing your day-to-day activities without becoming dependent on others. Not doing any physical activity can be bad for you, no matter your age or health condition. Keep in mind, some physical activity is better than none at all. Your health benefits will also increase with the more physical activity that you do. Many aged people suffer from chronic diseases because of lack of physical activities. Some of the systems working and exercise guidelines are given in this paper. The secret of healthy living older age is the physical exercises and the maintenance of physical fitness.

Keywords: healthy life, older adults (60+), regular physical activity.

Introduction

Population ageing is one of the most discussed global phenomena in the present century. Countries with a large population like India have a large number of people now aged 60 years or more. The population over the age of 60 years has tripled in last 50 years in India and will relentlessly increase in the near future. According to census 2001, older people were 7.7% of the total population, which increased to 8.14% in census 2011. The projections for population over 60 years in next four censuses are: 133.32 million (2021), 178.59 (2031), 236.01 million (2041) and 300.96 million (2051). The increases in the elderly population are the result of changing fertility and mortality regimes over the last 40-50 years. The elderly process is considered to be an end product of demographic transition or demographic achievement with a decline in both birth and mortality rates and consequent increase in life expectancy at birth and older ages. The expectancy of life at birth during the year 2006-2011 was 65.65 and 67.22 for male and female respectively while projected expectancy of life at birth during the year 2011-2016 will be 67.04 and 68.8 years for males and females respectively. Irrespective of socio-economic status, the non-communicable diseases (NCDs) requiring large quantum of health and social care are extremely common in old age. Disabilities resulting from these NCDs are very frequent, which affects the activities of daily living. The management of these chronic diseases is also very costly, especially for cancer treatment, joint replacements, heart surgery, neurosurgical procedures etc., thereby making it out of pocket for elderly persons. The 60th round of National Sample Survey provides a comprehensive status report on older persons. According to this survey, the prevalence and incidence of diseases as well as hospitalization rates are much higher in older people than the total population. It also reported that about 8% of older Indians were confined to their home or bed. The proportion of such immobile or home bound people rose with age to 27% after the age of 80 years. Women were more frequently affected than males in both rural and urban areas. The survey revealed that a good or fair condition of health was reported by 55-63% of people with a sickness and 77-78% of people without one. In contrast about 13-17% of the survey population without any sickness reported ill-health. It is possible that many older people take ill health in their stride as a part of "usual/normal ageing." This observation has a lot of significance as self-perceived health status is an important indicator of health service utilization and compliance to treatment interventions.

However, *very little effort has been made to develop a model of health and social care in tune with the changing need and time. The developed world has evolved many models for elderly*

Correspondence
 Ahamed Faiz PA
 MPhil Scholar SRM IST
 Chennai, Tamil Nadu, India

care, e.g. nursing home care, health insurance etc. As no such model for older people exists in India, as well as most other societies with similar socio-economic situation, it may be an opportunity for innovation in the health system development, though it is a major challenge. The requirements for health-care of the elderly are also different for our country. India still has family as the primary care giver to the elderly and scope for training this lot provide support to the program. Presently, the elderly are provided health-care by the general health-care delivery system in the country.

Regular physical activity helps to improve physical and mental functions as well as reverse some effects of chronic disease to keep older people mobile and independent. Despite the highly publicised benefits of physical activity, the overwhelming majority of older people in the United Kingdom do not meet the minimum physical activity levels needed to maintain health. The sedentary lifestyles that predominate in older age results in premature onset of ill health, disease and frailty. Local authorities have a responsibility to promote physical activity amongst older people, but knowing how to stimulate regular activity at the population-level is challenging. The physiological rationale for physical activity, risks of adverse events, societal and psychological factors are discussed with a view to inform public health initiatives for the relatively healthy older person as well as those with physical frailty. The evidence shows that regular physical activity is safe for healthy and for frail older people and the risks of developing major cardiovascular and metabolic diseases, obesity, falls, cognitive impairments, osteoporosis and muscular weakness are decreased by regularly completing activities ranging from low intensity walking through to more vigorous sports and resistance exercises. Yet, participation in physical activities remains low amongst older adults, particularly those living in less affluent areas. Older people may be encouraged to increase their activities if influenced by clinicians, family or friends, keeping costs low and enjoyment high, facilitating group-based activities and raising self-efficacy for exercise.

The Physiology of Aging

Older adults can be defined as men and women age 65 and older, and adults age 50 to 64 years who have clinically significant chronic conditions and/or functional limitations that impact movement ability, fitness or physical activity (Nelson *et al.* 2007). Despite these age ranges, you should not erroneously assume that chronological age equates to physiological or functional age. Indeed, persons of similar ages can differ remarkably in functional capacity, which in turn affects how these individuals respond to exercise. Although it is inevitable that physiological function will decline with age, the rate and magnitude of change is dependent on a complex interaction of genetics, individual health, presence of disease or injury, and exercise history. Safe and effective exercise programming for older adults requires that you have knowledge of the effects of aging on physiological function at rest and throughout the exercise intensity spectrum. Being aware of the physiological aspects of aging will help you and your clients establish realistic program goals. You should also view maintaining function as a successful exercise-program outcome. For example, it has been demonstrated that people experience an average 1 percent decrease in cardiorespiratory fitness per year (Dempsey and Seals, 1995). If you work with a client for several years and observe no change in his or her cardiorespiratory fitness level over that timeframe, you have,

in fact, designed and implemented an effective program because the inevitable decline in physiological function, in this case cardiorespiratory fitness, has been delayed.

Cardiovascular System

Age-related changes in the blood include a decrease in the volume of packed red blood cells or constriction or blockage of peripheral veins by a blood clot. Also, there might be pooling of blood in the veins in the legs because valves are not working effectively. Age-related changes in the heart include a reduction in maximum cardiac output, changes in the activities of nodal and conductive fibers, a reduction in the elasticity of the heart's fibrous tissues, progressive atherosclerosis (fatty buildup or plaques) that can restrict coronary circulation, and replacement of damaged cardiac muscle fibers by scar tissue. Age-related changes in blood vessels are often related to arteriosclerosis, a thickening and toughening of arterial walls in which the walls become less tolerant of sudden increases in pressure. Aging affects aerobic capacity and cardiovascular performance during exercise. Peak exercise capacity and peak oxygen consumption decrease with age, but there is great variation from one individual to another. Aerobic capacity decreases by 50% between ages 20 and 80. Physical conditioning appears to lessen the vascular stiffening associated with aging since stiffening is increased by only about half as much in endurance-trained elderly persons as compared to sedentary ones. Exercise can also improve the aerobic capacity of older persons by increasing cardiac output and oxygen utilization.

Musculoskeletal System

As people age, their joints are affected by changes in cartilage and in connective tissue. The cartilage inside a joint becomes thinner, and components of the cartilage (the proteoglycans-substances that help provide the cartilage's resilience) become altered, which may make the joint less resilient and more susceptible to damage. Thus, in some people, the surfaces of the joint do not slide as well over each other as they used to. This process may lead to osteoarthritis. Additionally, joints become stiffer because the connective tissue within ligaments and tendons becomes more rigid and brittle. This change also limits the range of motion of joints. Loss of muscle (sarcopenia) is a process that starts around age 30 and progresses throughout life. In this process, the amount of muscle tissue and the number and size of muscle fibers gradually decrease. The result of sarcopenia is a gradual loss of muscle mass and muscle strength. This mild loss of muscle strength places increased stress on certain joints (such as the knees) and may predispose a person to arthritis or falling. Fortunately, the loss in muscle mass and strength can partially be overcome or at least significantly delayed by a program of regular exercise. The types of muscle fibers are affected by aging as well. The numbers of muscle fibers that contract faster decrease much more than the numbers of muscle fibers that contract slower. Thus, muscles are not able to contract as quickly in old age.

Sensory System

As you age, the way your senses (hearing, vision, taste, smell, touch) give you information about the world changes. Your senses become less sharp, and this can make it harder for you to notice details. Sensory changes can affect your lifestyle. You may have problems communicating, enjoying activities, and staying involved with people. Sensory changes can lead to isolation. Understanding and knowledge of the factors

contributing to impairments in balance is fundamental to designing an effective balance-training program. Poor balance is multi-factorial in origin; in particular, cognitive impairment, visual disturbances and poor reaction time increase the likelihood of falls. Moreover, balance impairments and lower-extremity skeletal muscle weakness are also well-recognized independent contributors to falls. In particular, fallers have less muscular strength in the quadriceps and ankle dorsiflexors and plantar flexors compared to non-fallers (Orr *et al.* 2008). It should be noted, however, that previous research exploring exercise training as a means for fall prevention in older adults has shown conflicting results (Mansfield *et al.* 2007). While some studies have reported a reduced risk of falls after exercise training, other research has reported limited or no benefits. Even so, there are important lessons to be learned from these incompatible findings, and the complex etiology of poor balance highlights the need for a comprehensive intervention program. With that in mind, consider the following six critical issues that must be considered when developing an all-inclusive strategy for optimizing balance training and fall prevention among older clients.

Mental Health

Cognitive decline has been associated with aging and there is some evidence that physical activity prevents or delays cognitive impairment and disability and improves sleep. As people age, depression and anxiety disorders increase though physical activity has been shown to be beneficial in preventing these disorders. Additionally people tend to have fewer friends and acquaintances as they age and this loss of social stimulation can lead to depression. Physical activity provides a mechanism for older adults to have social interactions.

Exercise Guidelines

- Consult your physician
- Moderate intensity aerobic activity for 30 minutes five days in a week.
- Vigorous intensity aerobic activity for 20 minutes, three days in a week.
- Strength training/resistance 2 non consecutive days per week, using a resistance that allows 10-15 repetitions.
- 10 minutes of flexibility exercises twice a week will maintain their balance, coordination, joint range.
- Balance must be improved through training and reduce the chance to fall.
- Should do physical activities in a effective and safely manner.
- Yoga and meditation.
- The exercises must be in a progressive and in a step wise manner.
- Encourage them to self-monitor their performance and try to evaluate their health status.

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