

## AGEING AND CARDIOVASCULAR DISEASE

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### Abstract

*Cardiovascular diseases (CVD) are diseases of the heart and blood vessels that are common in adult. Certain modifiable risk factors for CVD have their beginnings in childhood. Physical inactivity, high blood pressure, high cholesterol, high plasma homocysteine, elevated blood sugar, high serum uric acid, high triglyceride levels and pulmonary function abnormalities manifesting in children may contribute to the development of CVD in adult. Prevention and altering CVD risk factors in childhood will reduce morbidity and mortality from this disease in adulthood. Involving the children in regular aerobic exercise training programme at moderate intensity for thirty minutes at least three times per week will help reduce child's risk of developing CDV as an adult.*

**Key words:** Cardiovascular, Homocysteine, Cholesterol, Aerobic exercise programme

### Introduction

A Lifetime of healthy choices makes it possible for one to live life actively, energetically and enjoy health and vigor later in life. There is therefore the need for one to cultivate wellness when one is young. A lifestyle based on good choices and healthy behaviour helps people to avoid disease, remain strong, fit and maintain physical and mental health as long as they live. The health of a nation is majorly a reflection of the past and present health of its children.

The increasing life expectancy and decreasing rates of disability among elders can be attributed to the healthier childhood of the successive generations. Scientific evidences by McGinnis and Foege, (1993); Barker (1995); Halfon and Hochstein (2002) support the claim that many of these disorders have their roots in childhood. Addressing these health risks earlier in life, when prevention, early intervention and health promotion will yield the greatest benefit, can improve life-long health. Childhood exposures to different types of abuse directly increase the risk of several cardiovascular diseases that emerge in adults.

Childhood is the onset of the active life of every human. It is the between the first birthday and puberty. Childhood can also be described as the period when children are actively involved in physical activity because play is one of their major characteristics. A child is an individual between the stages of birth and puberty. Every child goes through many stages of development to adulthood.

Cardiovascular diseases (CVD) are diseases of the heart and blood vessels. Cardiovascular diseases can result to damage in the heart coronary arteries or in other blood vessels throughout the body. It is not a single disorder but may comprise several specific diseases and may be as a result of various personal habits, infection and injury or may be

inherited. Cardiovascular diseases are common among older adults. The primary CVD are coronary heart disease, stroke, hypertension, atherosclerosis and peripheral vascular disease. With these degenerative diseases, most people are unaware that the disease process is suppressed in the body and gradually progressing to the point that it could cause major complications including death.

### Causes of Cardiovascular Diseases

Cardiovascular diseases are diseases that develop and continue over a period of time, usually caused by variety of factors including lifestyle factors. They are common among older adults but progress gradually from childhood. Cardiovascular disease may be as a result of various personal habits, infection and injury or may be inherited. Many people considered themselves to be healthy until they experience some serious signs of illness. In Nigeria society today, it appears that the advances in modern technology have almost completely eliminated the necessity for physical exertion in daily life.

Also in the recent time, unhealthy lifestyle and decreases in engaging physical activity contributed to the decline in physiological functioning of the people's body from childhood. Hoeger and Hoeger (2002) stressed that increase in sedentary living, alcohol consumption, eating of fatty foods, excessive sugar consumption and tobacco smoking increased the incidence of CVD. Smoking, sedentary living or eating a high fat diet by individual increases the risk for CDV in both male and female.

Researches have shown major risk factors that significantly increases the risk of CVD such as elevated blood lipids, high blood pressure, high serum uric acid, excessive body fat, elevated blood glucose, elevated blood homocysteine and pulmonary function abnormalities (McArdle, Katch

& Katch, 2007; Adeagbo, 2016). It is important to note that decreasing the risk factors for CVD often can either prevent the disease or delays its onset. Healthy lifestyle patterns should be developed when people are young (Healthy People, 2010). These lifestyle patterns can then be carried into adulthood, reducing the risk of CVD. The increased prevalence of overweight and obesity as a result of buildup of fatty substances in children nowadays might probably be attributed to decreasing activity, increasing inactivity and a rising caloric intake. These support the tracking of CVD risk factors into adulthood (Wang, Ge & Popkin, 2000; Adeagbo, 2016).

Cardiovascular disease is not a major cause of death among children but it is the largest cause of death among adults. Certain modifiable risk factors for CVD have their beginnings in childhood (Washington, 1999). High blood pressure, obesity, hypercholesterolemia, physical inactivity and cigarette smoking in childhood may all contribute to the development of CVD in adulthood. Identifying at risk children is the first step in modifying or preventing these risk factors because they have their roots in childhood (American Heart Association, 2003). Primary prevention and intervention through risk factors modification can be effective in children. Risk factors for CVD may be directly causative, secondary manifestation of a more basic underlying metabolic abnormality or may represent early symptoms of the disease.

Most of the risk factors that affect children can be controlled early in life, lowering the risk of CVD later in life. The effects of risk factors in adults are additive, the greater the number of high risk factors present, the greater the risk of CVD. It is important to understand that prevention is the best way to avoid CVD problem later in life. Controlling as many risk factors as possible, starting in childhood, will help reduce child's risk of developing CVD as an adult.

### **Prevalence of Cardiovascular Diseases**

The primary cardiovascular diseases are hypertension, coronary heart diseases stroke, and peripheral vascular diseases. The prevalence of CVD and functional impairment increases with age. The high prevalence of these diseases might cause increased health problem, medical care cost and the reliance on medical services and assisted living. Cardiovascular diseases cause 12million death worldwide each year (Hayward, 2002). Cardiovascular diseases are the number one cause of death in the western world and account for 40 percent of all death in the United States (deVries, Housh & Housh, 2003). American Heart Association (2001) and World Health Organization (2002) reiterated that CVD is the principal cause of mortality in Europe accounting for more than 50% of all death and 15% to 20% in developing countries in African Western Asia and South East Asia. More than 80% of global burden of CVD

occurs in developing countries (Ameen & Fawole, 2008), however the knowledge on the risk factors is largely derived from developed countries. Cardiovascular disease in Nigeria and other African Countries is devastating. Akinroye (2012) stressed that CVD is the number one killer disease in the world and even in the developing countries. Over 83% of people who die of CVD are 65 years or older. Men have a greater risk of CVD earlier in life (American Heart Association, 2008). Women's death rate CVD increasing after menopause but still not as great as men's. Also, at older ages, women who have CVD are more likely than men are to die from them.

### **Prevention of Cardiovascular Diseases**

Certain factors were found to have played important role in a person's chances of developing CVD. Some risk factors can be changed, treated or modified and some cannot. Some major risk factors such as diet, exercise habits and use of tobacco are linked and can therefore be changed while others such as ages, sex and heredity are beyond individual control. Most of the risk factors that affect children can be controlled early in life, lowering the risk of CVD later in life.

Controlling as many risk factors as possible, starting in childhood, will reduce child's risk of developing CVD as an adult. It is important to understand that prevention is the best way to avoid CVD problem later in life. The individual from childhood needs to make sure CVD risk factors are brought under control through physical activity, exercise, diet and lifestyle regulation. This is achievable if every individual take it as a challenge to improve physical activity, exercise regularly, reduce body weight, tobacco smoking and the amount of fat and salt in the diet and have access to friendly environment.

People of all ages can benefit from engaging in physical activity. Healthy lifestyle can be improved by engaging in moderate amount of physical activity on regular basis. Engaging children in aerobic exercise training programme regularly and sustained will prevent or delay the onset of CVD in adults (Adeagbo, 2016).

### **Conclusion**

Cardiovascular disease is common with adults but it tracks from childhood to adulthood. It is important to prevent the risk factors from manifesting at childhood in order to prevent or delay its onset in adults. Aerobic exercise training programme is beneficial in improving the percent body fat, low density lipoprotein cholesterol level, blood glucose level, serum uric acid level, forced vital capacity, forced expiratory volume in 1 second and maximum voluntary ventilation of children taking into cognizance the decreases and increases that are beneficial to the health and fitness of the children.

## Recommendations

Regular physical activity or exercise at moderate intensity for thirty minutes, at least three times a week by every individual child will assist in keeping low the risk factors levels. Teachers, coaches, trainers and caregivers to children should be encouraged to engage their pupils in the use of aerobic exercise regularly and sustained to prevent or delay the onset of CVD as this track from childhood to adulthood.

## References

- Adeagbo, D. I. (2016). *Effect of aerobic exercise training programme on cardiovascular disease risk factors among primary school children*. An unpublished Doctoral Thesis, Ekiti State University, Ado Ekiti, Nigeria.
- Akinroye, K. (2012, May 8<sup>th</sup>). *Cardiovascular disease is big threat to MDGs*. *Vanguard News in Health* pp 25 & 26.
- Ameen I.O & Fawole O.I (2008); *Prevalence of cardiovascular diseases (CVD) among Nigerian youths – The Bill and Melinda Gate Institute for Population and Reproductive Health, Johns Hopkins University in Partnership with Centre for Population and Reproductive Health, University of Ibadan and the Department of Community Health Obafemi Awolowo University. Abuja April 27 – 29.*
- American Heart Association (AHA, 2008). Getting healthy. [www.heart.org/Heartorg/Gettinghealthy/Healthierkids/kidsUCM304156](http://www.heart.org/Heartorg/Gettinghealthy/Healthierkids/kidsUCM304156)
- American Heart Association (AHA, 2001). Guidelines for the evaluation and management of chronic heart failure in the adult: Executive summary. *JOURNAL OF American College of Cardiology*; 38:2101-2113.
- American Heart Association, (2003). Exercise and physical activity in the prevention and treatment of atherosclerotic. *Cardiovascular Disease Circulation*, 107, 3019-3116.
- Barker, D. J. (1995). Fatal origins of coronary heart disease. *British Medical Journal*, 311(6998) 171-174.
- deVries H. A, Housh, T. J & Housh, D.J. (2003). *Applied exercise and sport physiology*. Holcomb Hathaway Publishers Inc.
- Halfon N., & Hochstein M. (2002). Life course health development an integrated framework for developing health: Policy and research. *The Milbank Quarterly*, 80(3), 433 – 479.
- Healthy People (2010). Healthy people objectives and priority area <http://web.health.gov/healthypeople>
- Heyward, V.H. (2002); *Advanced fitness assessment and exercise prescription* (4th ed.). USA: Human Kinetics.
- Hoeger, W.K., & Hoeger, S. A. (2002). *Principles and labs for fitness and wellness* (6<sup>th</sup> ed.). USA: Wardsworth, Thompson Learning.
- McArdle, W.D., Katch, F.I., & Katch, V.L. (2007). *Exercise physiology: Energy, nutrition, and human performance*, (6<sup>th</sup> ed.). Baltimore Lippincott: Williams and Wilkins.
- McGinnis J.M. & Foege W.H. (1993); Actual causes of death in the United States. *Journal of the American Medical Association*, 270(18),2207-2212.
- Wang Y., Ge K. & Popkin B.M. (2000). Tracking of body mass index from childhood to adolescence: A 6-year follow-up study in China. *American Journal of Clinical Nutrition*, 72, 1018-1024.
- Washington, R. L. (1999). Interventions to reduce cardiovascular risk factors in children and adolescents. *American Family Physician*, 59(8), 2211 – 2218.
- World Health Organization (2002). Diet, physical activity and health. Geneva: World Health Organization, (Documents A55/16 and A55/16 corr. 1).