

Health, Fitness and Physical Activity: A Key to Enhancing Wellness for All Ages in Building a Vibrant Nation

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ABSTRACT

It is generally assumed that participation in physical activities and exercises is an essential ingredient in enhancing total health and youthfulness. Amusa (1980) confirmed in his research that participation in exercises is vital for the optimum function of the brain and for the retardation of onset of serious heart diseases such as arteriosclerosis. In a bid to alleviate some of this health issues, this paper through review of related literature examines; concept of health, the relationship between health, fitness and physical activities (PA), Prescription of exercises for healthy living and wellness, health benefits associated with PA, health, fitness, and correlates of PA, health fitness and academic performance among youths , PA and quality of life, fitness and life expectancy, economic consequences of inactivity, maintenance of a healthy body weight through PA, summary, conclusion and recommendation. The paper recommended that to enhance wellness, sedentary and inactive lifestyle be discouraged and individual be involved in selected physical activities and some forms of recreation which should last for at least 30 minutes. This should be done at least three (3) times a week. In addition, a number of interventions were recommended to enhance participation and sustainability.

Key words: Health, Fitness, Wellness, cardiovascular diseases, physical activity, youths, vibrant nation

INTRODUCTION

Physical activity is defined by Marchie and Uzoniche. (2010) as any body movement produced by skeletal muscles that result in energy expenditure above basal level. Effective physical activity has been defined in terms of regularity and intensity of exercise recommended per week for at least 30 minutes per session. Vansluijs et al; (2004), showed that engaging in regular physical activity can prevent the onset of many chronic diseases such as cardiovascular disease, coronary artery disease, ischemic, stroke, obesity, diabetes and some forms of cancer. Regular physical activity and fitness are very important for the improvement of health and well - being of people of all ages. Research have demonstrated that virtually all individuals can benefit from regular physical activity, either by participating in vigorous or moderate exercises in achieving sound health, fitness and wellness.

Surgeon General's report on physical activity and health concluded that moderate physical activity can reduce substantially the risk of developing diseases, such as diabetes, colon, cancer, and high blood pressure (NCCDHP, 1996). Regular physical activity has been shown to reduce morbidity and mortality from many chronic diseases. According to Butley, Davis and Lewis, (1998), millions of Americans suffer from chronic illnesses that can be

prevented or improved through regular physical activity. The current consensus is that physical activity and physical fitness are reciprocally related and that they exert independent effects on health and wellness.. This implies that people need to be physically active even if they have reasonable level fitness. Individual with low levels of fitness can also obtain health benefits by remaining physically active. Although, some of the factors influencing fitness are out of a person's control (e.g. genetics and rate of maturation), the fact remains that physical exercise and activity can ameliorate negative effects of such factors.

Despite the well known benefits of physical activity as stated by researchers that most adults, youths and children in Nigeria live relatively sedentary lifestyle and are not active enough to achieve exercise benefits. The objectives of this study were to examine the concept of health, the relationship between health, fitness and physical activity, prescription of exercises for healthy living and wellness, health benefits associated with quality physical activity, health, fitness and correlate of physical activity, physical activity, health fitness and academic performance among youths, Physical activity, and quality of life, fitness and life expectancy, economic consequences of inactivity and maintenance of healthy body weight through PA.

Concept of Health/Wellness

The word health and wellness is generally accepted to mean a condition of the body free from physical diseases. It is a condition of soundness of any living organism, that state in which all the natural functions are performed freely without pain or diseases, freedom from sickness or decay. WHO (1947) defines health as a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity. The quality of life is therefore at the root of health and this quality is determined by how one feel physically, socially, mentally, emotionally and spiritually at any given point. Health is a continuum and not static, See Fig. I in appendix.

The report of the US President Commission on health of the nation (1983). Supports the point of view that there are gradation of health and that everyone not affected by diseases or disability is not equally healthy. The report further stated that health is not a condition but an adjustment. It is not a state but a process. It is through this process that human being adjust to their environment. Thus, the status of health that one enjoys at a given time is determined by multifaceted factors in which physical activity plays a vital role. The interaction of all these factor determines the level of fitness and wellness, an individual might experience at any given time. This wellness –Illness continuum of an individual which shows that with participation in physical activity, the highest level could be achieved, See Fig.II in appendix.

The relationship between Health, Physical Activity and Recreation (HPRA)

Whelk and Blair (2001) explained that exercise and physical fitness are directly related but they actually represent different things. Physical activity is behavioural, while health fitness is a trait or characteristics. The effects of physical activity on the incidence of diseases has been established by (Siscovick, LaPorte, Hewman, and Taylor, Sallis, and Neddle, 1985), and it appears that these effects are produced through both direct and indirect mechanisms respectively. For example, physical activity may directly help prevent hypertension by lowering elevated plasma catecholamine levels and may indirectly affect hypertension risk by producing weight loss. According to Steven, PED, (1985), the full impact of physical activity on health and disease can be appreciated only when both the direct and indirect effects are considered and possible causal mechanisms are described. Steve, PED, David, et al and Powell, (1985), illustrated some possible relationship between physical activity and disease prevention. Associations between physical activity and disease may be direct, indirect or both. As shown in figure III in appendix.

These lines of relationship may influence physical activity or other health behaviours or both. Considerable interest currently exists in how physical activity indirectly influences health by acting through other behaviours, such as smoking, drinking or overeating. If these indirect effects can be documented, the relationship will be of importance not only to epidemiological research, but also to health educators and health promotion programmes.

Olubayo-Fatiregun and Aderonmu (2010), stated that regular physical activity and exercise are critically significant for the health and fitness and well-being of people. The authors further advanced that exercise is one way to prevent certain disease, including obesity and that individuals who engage in regular exercises are presumed to be healthier than those who do not.

The role of physical activity in preventing coronary heart disease (CHD) is of particular importance, given that CHD is the leading cause of death and disability in the United State. This also is applicable to other communities in both developed and developing countries who have a life style similar to those victims in the United States of America. The risk posed by physical inactivity is almost as high as several well- known CHD risk factors, such as cigarette smoking, high blood pressure, and high blood cholesterol. Regular physical activity is especially important for people who have joint or bone problem, The Centre for disease Control and Prevention (1997) found that people with arthritis (20 percent of the adult population) are less active than those without arthritis. Regularly physical activity is also found to improve muscle and cardiovascular function. People with osteoporosis, a chronic condition affecting more than 25 million people all over the world, may respond positively to regular physical activities, particularly weight-bearing activities, such as walking. The combined effects of walking and appropriate drug therapy and calcium intake yield excellent results. (NIA, 1994). Increased bone mineral density has been positively associated with aerobic fitness, body composition, and muscular strength (Snow-Harter, Shaw & Matkin, 1996).

Although vigorous physical activity is recommended for improved cardio respiration fitness, increasing evidence suggests that moderate physical activity also can have significant health benefits. For people who are inactive. In addition, moderate physical activity is more readily adopted and maintained than vigorous physical activity (Pate, Pratt & Blair, 1995). As research continues to illustrate the links between physical activity and selected health outcomes, people will be able to choose physical activity patterns optimally suited to individual preferences, health risks, and physiologic benefits.

Cross-sectional studies have shown an association between higher activity levels and lower levels of body fat, increased bone mineral mass, in conjunction with other interventions to treat obesity, hypertension, and other chronic disease (CDCP, 1997; Sallis, 1994; Simons-Norton, 1998; and Bar-Or, 1994). Some of these exercises or physical activities programme which has been successfully implemented in school settings in developed countries of the world can also be adopted by physical and health educators in developing countries like Nigeria to enhance wellness for all ages.

Prescription of Exercises for a Healthy Living and Wellness

Human body is designed for an active life. People all over the world are becoming aware, interested and committed to a healthier life so that they could have prolonged active life. However, the introduction of modern technology and automation have led to physical inactivity, as machines now do most jobs previously done by manual labour. This results to a situation where minimum state of physical fitness, which is a prerequisite for healthful living and long-life, is seriously lacking. Onifade (2001) was convinced that many Nigerians today are living sedentary life lacking physical and vigorous activities. Movement experiences are the means through which fitness and wellness can be achieved. Attempt to produce an

unsurpassed all round results in wellness would involve effective exercises called Running, on-the-spot, running in place, sit-up and push-up.(RSP) programmes as recommend by Ajisafe (1991). These programmes include; running, on-the-spot running in place, sit –up and push – up. These exercises help in providing a minimum programme for total body development and help to develop a high level of general fitness and built in daily evaluation.

Edlin, Golanty & Brown (2000) stated that taking part in exercises such as swimming, jogging and walking helps to cancel the negative emotional stresses that accumulated. Aerobic exercises and regular exercises for 30minutes produce maximum benefits by increasing heart capacity and helps in weight management. Weight training programmes with light barbells, dumbbell and weight machines are pathways to gain strength for body building. Increasing the length of time of strenuous activity followed by rest periods would help the performer to improve endurance and power levels.

Adegboye & Olanipekun (2010) stated that participating in human movement experiences can prepare one to cope adequately with all types of emergencies in life. Occasionally individuals find themselves in situations that require strenuous and prolong movement under stressful environmental conditions. To develop maximum cardiovascular fitness, one needs to put stress on the body system above the normal level. This is referred to as overload. The system of adding more loads to performance should be gradual. This indicates that people should undertake exercise gradually and progressively. Cardiovascular efficiency can only be attained through gradual but constant training. This show the relationship between frequency, intensity, duration, overload and processes to achieve improved physical fitness and full healthy living. Oladele (2010), reported that exercise is significantly related to reduction of all anxiety, emotional stress and the meta-analyses showed that the effects of exercise on anxiety reduction are shown when: the exercise is aerobic e.g. running, swimming, cycling as opposed to non-aerobic. The length of the aerobic training programme is at least 10 weeks.

Daley (2010) found out that exercise had positive effects on schizophrenia and generally reduce depression, increase well-being and improved aerobic fitness. In selecting activities that individuals will enjoy and be willing to pursue possibly, it must be ensured that the exercises are of endurance in nature such as walking, jogging, running and swimming. It should comprise those activities that would develop the general physique, strength, muscular endurance and flexibility. If the aim of participation is for the individual to get back to shape, then he would concentrate more on endurance activities. Duration and frequency of participation in exercise influence the magnitude of improvement. As stated by Amusa, (1980) individual training for 3 to 5 days per week at 20 to 60 minutes per day in endurance exercises will receive a minimal level of threshold. Longer and more frequent exercise bouts would definitely produce greater improvement. The individual performer should note the intensity and the significant changes in participating in cardiovascular endurance exercises at least 50% of his endurance capacity. The improvement in an individual's cardiovascular efficiency is greatly influenced by the duration of training. The fitness component being developed and the fitness of the individual will determine the duration of the activity desired to attain cardiovascular fitness level.

Health Benefits associated with Physical activity and Fitness

Physical activities are considered very important in contemporary society. The benefits of activities are well documented and these have both physical and physiological benefits. Participating in physical activities has been linked with reduction in tension, reduced state of anxiety, depression thus enhancing sense of wellness and reduction of mortality rate in both developed and underdeveloped nations of the world. There is an overwhelming amount of scientific evidences on the positive effects of sports and physical activity as part of a healthy lifestyle. The positive direct effects of engaging in regular physical activity are

particularly apparent in the prevention of several chronic diseases as previously stated to include cardiovascular disease, diabetes, cancer, hypertension, depression, obesity, stress and osteoporosis. A number of factors influence the way in which physical activity impacts on the health of different populations. Physical activity in itself may not directly lead to benefit but in combination with other factors and determinants such as nutrition, intensity and type of physical activity, suitable footwear, clothing climate or injury, stress levels and sleep pattern. There are evidences to suggest that changes in the environment that can have a significant impact on opportunities for participation and addition, the conditions under which the activity takes place can heavily impact on health outcomes. See Figure I under appendix.

Stone (1993) listed a number of beneficial physiological changes which individuals experience from active life as including:

- A lower heart rate at any sub-maximal work load;
- a lower systolic and diastolic blood pressure at any given sub maximal work load;
- a greater extraction of oxygen from the circulating blood;
- an ability to pump a larger volume of blood with each contraction of the heart chambers;
- increased efficiency, leading to a lower heart work demand (power or fuel requirement) for any given external work; and
- decreased susceptibility to degenerative diseases of modern life-style.

Individuals can acquire the physiological benefits listed above by engaging in vigorous exercises that will keep the body systems in their optimal functional capacity. There are evidences that the potential benefits from physical activity cannot be stored. This suggests that exercise habits should be continued regularly if the gain resulting from them is to be retained. (Ikpeme, 1995; Onifade, Agbonjimi & Ososanya, 1991; Hockey, 1993). Therefore, it is healthier and more profitable for an individual to remain physically active than just to achieve a certain level of fitness and then return to sedentary life style. It is obvious that many feel delighted and are more able to cope effectively with the stress of life with regular exercise. It is important to know that the sort of physical activity being advocated for in this write up is not only for life extension, but what we need is an exercise/activity programmes that will bring about improved quality of life, fitness and wellness. Summarily, physical activity can make a substantial contribution to the fitness and wellbeing of people in developing countries in the following:

- (i) Developed healthy musculoskeletal tissues i.e (bone, muscles and joints).
- (ii) Develop a healthy cardiovascular system (heart and lungs).
- (iii) Develop neuromuscular awareness (coordination and movement control of the body).

Exercises and sports have long been used in the treatment and rehabilitation of communicable and non-communicable diseases. Physical activity for individuals is a strong means for prevention of diseases and for nations is a cost-effective method to improve public health across populations.

Health, Fitness and Correlate of Physical Activity

Beyond the physical benefits of regular physical activity, research has revealed that there are also strong correlation between physical activity, and various aspects of life. Engaging in regular physical activity may affect crime prevention, academic performance, quality of life and life expectancy, health care, cost and the work environment.

Physical Activity, Health, Fitness and Academic Performance among Youths

In Nigeria youths are becoming more inactive due to the introduction of technology. With the increase use of video games, films and television, the decline of opportunities for games and physical activities in schools, and concerns for safety outside home, youths find

themselves living sedentary lifestyles. During the transition from secondary school age to high school adolescents, physical fitness, aerobic fitness, and participation in regular activity is steadily declining. This is especially demonstrated in early maturing females, and overweight youth. Basch, (2010), stated that population wide adolescents studies have indicated that females are less active than males and that black youths are less physically active than white young adults. Research has demonstrated that appositive correlation exists between physical activity and academic performance in adolescent students. Students who are physical inactive are more prone to academic failure, more absence in school, lower grades and test scores, and less ability to pay attention in class (Centres for Disease Control and prevention (CDC); 2009).

Physical Activity, Quality of Life, Fitness and Life expectancy

People of all size and ages, ethnicities and abilities can benefit from some forms of habitual physical activity. Scientific researchers have confirmed that regularly physical activity can help to produce endorphins in the brain, which can promote feeling of well-being and help to reduce symptoms of anxiety and depression. In older adults, regular physical activity can help reduce the risk of falls, back pains, arthritis, can increase stamina and energy, and improve balance and posture.

Research demonstrates the importance of avoiding inactive lifestyle by all humans. Life style choice can make a big impact on mortality as participating in physical activity scientific research estimate that an individual who participate in physical activity for seven (7) hours a week has 40% less chance of premature death compared to one who engages in physical activity for 30 minutes or less per week. See Fig IV in appendix.

Economic Consequences of Inactivity

Physical inactivity and its associated health problems have substantial economic consequences to health care system in both developed and developing countries. A physically inactive population is at both medical and financial risk for many chronic and deadly diseases such as cardiovascular disease, stroke, cancer, diabetes, Hiv/Aid, syphilis, obesity, arthritis and host of others. The increasing prevalence of chronic medical conditions and diseases related to physical inactivity are linked with two types of cost. Firstly, there are the health costs for preventive diagnostic and treatment services related to the chronic conditions. The cost may include expenditures for doctor and nurses, visits, ambulance services, rehabilitation services, hospital and nursery home care and pharmaceutical services. Secondly, there are other costs associated with the value of lost wages by people who are unable to work due to illness and disability and value of future earnings lost by premature or untimely death. Individuals suffering from chronic diseases bear a significant portion of tier medical cost. A study carried out by Stram (2002) revealed that the obese spend approximately 36% more than the general population on health services and 77% more on self medications. The study also indicated that the effects of obesity on health spending were significantly longer than effects of current or post smoking. Since regular physical activity helps prevent disease and promote health, it may decrease health care cost.

A study carried out by researchers at the Centres for Distance Control and Prevention (1996) discovered that physically active people had on average lower direct medical costs than inactive or sedentary people. Pratt, Madera and Wang (2002) found that physically active people had fewer hospitals stay and physician visits and used less medication than physically inactive people. And the cost savings were consistent for men and women for those with or without physical limitations. The researchers concluded that adoption of a population wide physical activity strategy might produce health care cost savings among most adult age groups.

Maintenance of a healthy body weight through physical activity

Otinwa (2008) noted that obesity is increasing at an alarming rate throughout the world. It has been estimated that there are more than 300 million obese people worldwide. The prevalence of obesity in most part of the world is affecting men, women, adolescent and children alike. Sedentary lifestyle has been identified to play a big role in the development of overweight and obesity.

Obesity is an abnormal accumulation of body fat, usually 20% or more over an individual's ideal body weight (Payne & Hahn 2002). The World Health Organisation (2006) defines overweight as a BMI equal or more than 25, and obesity as BMI equal or more than 30. Thus it could be conveniently deduced that obesity is the end product of overweight. Thus obesity is a body mass index with a (BMI) of 30 or greater but has received more attention than overweight. Overweight with a (BMI of 25 to 30) is typically even more prevalent and also confers elevated risk of many diseases such as cardiovascular diseases, hypertension and a more than tenfold increase in the risk of type2 diabetes as compared with lean individual with a BMI less than 23. Calle et al (2003), stated that overweight and the obese people experiences elevated mortality from cancers of the colon, breast postmenopausal, kidney endometrial and other diseases All these could be prevented if the obese and the overweight people participate in physical activity and other forms of recreational activities.

Kolapo and Dietz, (1999), revealed that contemporary life in development nations has markedly reduced people's opportunity to expend energy, whether in moving environment or at home. Dramatic reduction in physical activity are also occurring in developed countries because of urbanisation, increase availability of vehicle to replace walking and bicycle riding and mechanisation of labour. However, regular physical activities and recreational exercises is an essential ingredient in the control and maintaining of weight and its resultant effects in building a vibrant nation.

SUMMARY

This paper examined the importance of health, fitness and physical activities as a key to enhancing wellness for all ages in building a vibrant nation. It is imperative to know that regular physical activities and exercise programmes produces major change in men, women, adults and adolescents as it improves levels of fitness and enhances wellness. From the literatures reviewed, studies highlighted the overwhelming health benefits of regular physical activity, its role in preventing both communicable and non-communicable diseases, coronary heart diseases and general fitness of the individual, health as a correlate of physical activity, PA and academic performance, PA, quality of life and life expectancy, economics of consequences of inactivity and maintenance of a healthy body weight through physical activities.

CONCLUSION

This review makes clear the pressing need to encourage a more active lifestyles, (fitness and health) among people of all ages in building a vibrant nation. Clearly, the goals of a more active population will be a challenge requiring a commitment to change on the part of individuals, families and communities. It is worth to note that both public and private sectors will come together to promote fitness and more healthy habits for people of all ages. Encouraging fitness and wellness through PA can be as simple as establishing working programme, at offices, schools and communities. Schools provide many opportunities to encourage children to engage in physical activity as well as healthy living. Thus, health and physical activity (HPA) should be a priority for all especially among Nigerians of all ages where participation of PA is at the lowest ebb as this could help to build a vibrant nation.

RECOMMENDATION

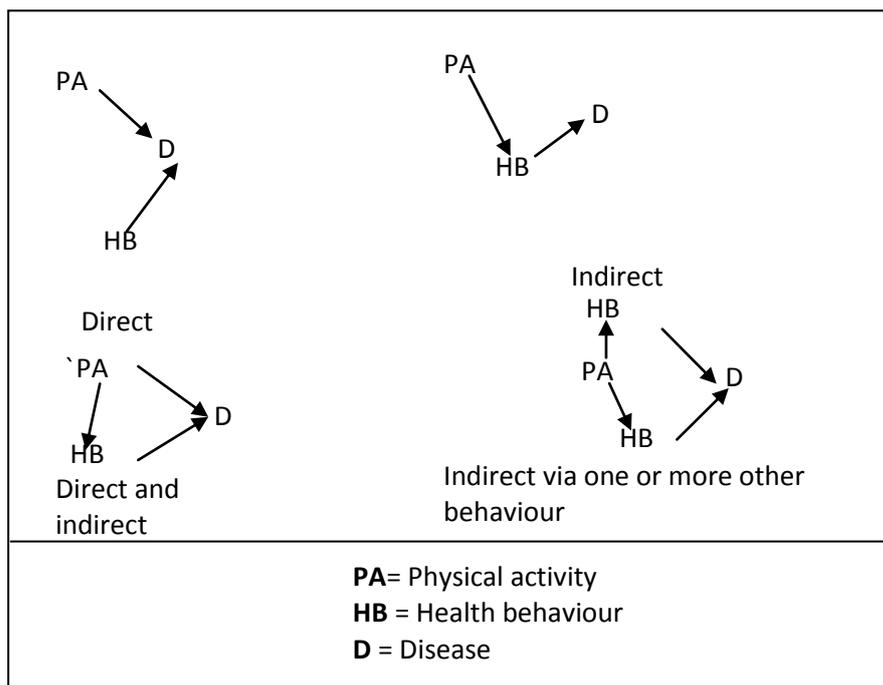
Based on the findings of this study, it was recommended that to enhance wellness, sedentary and inactive lifestyles should be discouraged. Individual no matter the status should be involved in physical activities and recreation which should be organised and last for at least 30 minutes three (3) times a week. In addition to available evidence of sedentary life styles of the majority of the population, introducing intervention programmes such as educational intervention, school based programmes, work-site intervention, interventions by health care providers, limiting the role of automobiles, promoting walking and bicycle riding, recreation based intervention and initiative at community level will make a strong case for public health efforts to encourage increased participation in physical activity in large numbers to improve fitness and health of the population in building vibrant nation.

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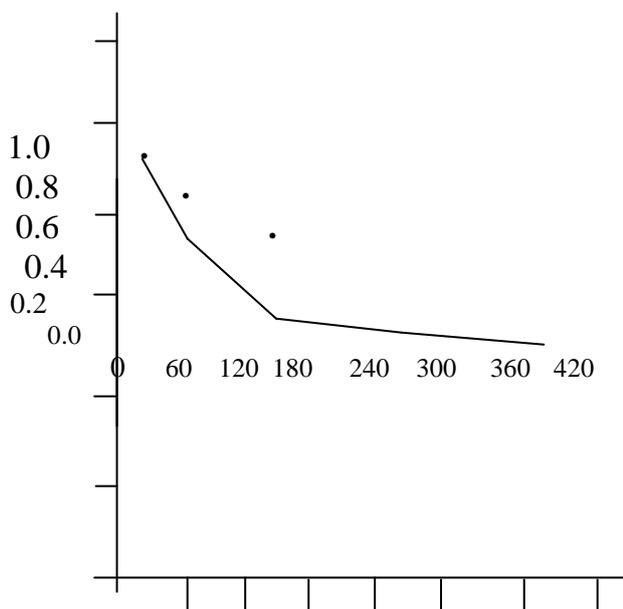
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Fig III



Source:- Adopted from Steven n. Blair, PED, David R. Et al, Director, Epidemiology at the Institute for Aerobic Research, 12200 Preston Road, Dallas, Tx. 75230.

Fig IV. The Risk of premature mortality declines as individual becomes physically active.



(Minutes per week of vigorous physical activity)

Source: - <http://health.gov/paguidelines/guideline/chapter 2. qsp>

2008 Physical Activity Guidelines for Americans, U.S. Department of Health and Human Services.