MAN DOES NOT DIE BUT KILLS HIMSELF:
The Dilemma of the Health Educator and the Moderating Influence of Health Education

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SUMMARY OF PRESENTER'S BIODATA

Born in Erunmu, Egbeda Local Government of Oyo State six decades ago, Professor Oyesegun Oyerinde had his primary school education in a number of schools including the Seventh-day Adventist Primary Schools in Ile-Ife, Erunmu and Oke-Bola, Ibadan. He attended the Adventist Grammar School, Ede and Anglican Grammar School, Ile-Oluji for the secondary and Higher School Certificates respectively.

He obtained his B.Sc. (Hons) Degree in Physical Education in 1977, and the M.A. and PhD degrees in 1985 and 1989 respectively with specialisation in Health Education at the University of Ife, Ile-Ife, now Obafemi Awolowo University. His research interests are mainly in health promotion, school health and drug education. He has solely authored a book, co-authored one and has chapter contributions in fifteen books. He has published not less than 52 articles in nationally reputable journals and 31 others in internationally reputable journals since obtaining the Doctor of Philosophy degree and supervised 26 Master's degree students' dissertations and 17 PhD students' theses. 5 of his students are now professors in various universities.

He is a member of the International Council for Health, Physical Education, Recreation, Sport & Dance, (ICHPER-SD) Africa Region, Nigeria School Health Association, Nigeria Venereal Disease Control Association (NIVEDA) and the Society for Public Health Educators of Nigeria. He is a Fellow of the Nigeria School Health Association and have attended not less than 22 Conferences, 5 of which were international.

Professor Oyerinde has served in various administrative and management capacities in his academic career. He was a two-time acting Head of Department, one time Director and one time Acting Dean. He has also served his universities on Senate and several committees and participated in the preparation of the University of Ilorin Strategic Plan. He served on many other faculty and university committees and boards besides being deeply involved in the initiation and execution of Departmental Projects, programme review and co-ordination of courses.

The high points in his career are the recognitions he has enjoyed: He was a member of the University of Ife team that critiqued the UNESCO Charter on Professionalism in Physical and Health Education in 1982. He was appointed a resource person to United Nations' International Children's Emergency Fund (UNICEF) and Federal Ministry of Education, Abuja on School Health Programme in 2006 and he participated in the

completion of four commissioned projects for both the UNICEF and the FMOE between 2007 and 2012. Professor Oyerinde has also been appointed as External Examiner to a number of universities including University of Ibadan, Lagos State University, Ojoo, University of Maiduguri, Ahmadu Bello Univeristy, Zaria and Bayero University Kano. He also served as External Examiner to Adeyemi College of Education, Ondo and Federal College of Education, Okenne. He has also served as Editor and Managing Editor to his Faculty and Departmental journals in University of Ilorin and Bayero University, Kano respectively.

In 2017, he delivered the "Distinguished Personality Lecture" of the National Association of Health Education, Recreation, Physical Education, Sports and Dance, University of Ibadan.

Mr. Vice-Chancellor Sir, also key are his appointments to the Board of the Adventist Polytechnic, Osi, Kwara State and the Strategic Planning Director of the Kwara Conference of the Seventh-Day Adventist Church for four years. He has just completed his two-year tenure (on leave of absence) as the Deputy Vice-Chancellor, Clifford University, Owerrinta, Aba, Abia State, Nigeria.

By His grace, he is married to his heartthrob, Adebola Elizabeth (Nee Amosun), a marriage blessed with five children: Dr. (Mrs) Oyebimpe Ajiboye, Engineer (Mrs.) Adeboye Fatade, Mr. Oyetunji Oyerinde an Educationist, Mr. Oyeniyi Oyerinde an Accountant, Mrs. Moyoloye Ajaiyeoba a Law and Diplomatic Relations specialist and God has blessed him with many grandchildren. Professor Oyerinde is passionate about accountability, justice, fair-play and interest in the progress of his numerous students and colleagues. By the grace of God, he is an Elder of the Seventh-Day Adventist Church world wide.

MAN DOES NOT DIE BUT KILLS HIMSELF: The Dilemma of the Health Educator and the Moderating Influence of Health Education

First Words

To start with, I wish to first return all honour and glory to All mighty God at this time and period of my life when it has pleased Him to give me the privilege of life to present this inaugural lecture. Looking at how I started my academic career, one cannot but see how God has led the way and shown light along my path to academic excellence. I started from a humble academic beginning and grew to the present height in my career by His Grace and His Grace alone… glory to God in the highest, great thing He has done.

Introduction

The holy books are clear about the plan of God when he created man and indeed all creatures. The Holy Bible reiterates that at the end of His week-long work of creation, "God saw everything that He had made [particularly man], and behold, it was very good" and perfect. The psalmist, King David, proclaimed in Psalm 139:14 that: "I am fearfully and wonderfully made".

According to Moses in Genesis Chapter I verse 3 and the Holy Qu'ran, Surat Al-sajadah 32:7 God saw everything that he had made, and, behold, it was very good. He went ahead to plant a garden for man where lions ate grass and snakes were friends to man while man thrived only on *fruits, grains, nuts* and *vegetables* and ***he was meant to live for ever and not taste death*** (Moses in Genesis Chapter 2 verse 8 and the Holy Qu'ran Surat al-Nahl 16:11; 16:69). Soon by man's action, the privilege was lost and God pronounced that man shall not live forever anymore but shall live foremost, for one hundred and twenty years only which was later placed by the Psalmist at seventy years in sound health and afterwards in pain and travail. **By the divine plan of God, man should live forever** (Moses in Genesis 3:22) and according to White in her book, *Education*, the purpose of God for man was that the longer he lived, the more fully will he reflect the glory of God and all his faculties are capable of continual development, their (man and woman) capacity and vigour are continually to increase. However, by his actions of commission, man commenced killing himself.

This lecture cannot exhaust all the issues involved in man's inhumanity to himself. However, in the following discourse, I have set at answering some of the questions on

what man has done, in contemporary time, that pronounces a death sentence on himself? What is the dilemma of the health educator and in what ways has health education pro-actively come to rescue man from himself in the process of playing the moderating influence?

The Concept of Man

I have not gone into the philosophical categorisation of man as posited by philosophers like Plato, Pascal, Socrates, and Nietzsche amongst others. I have relied greatly on the biological meaning of man as a male human and joining their thought to say that he is bipedal primate mammal that is anatomically related to the apes but distinguished especially by notable development of the brain with a resultant capacity for articulate speech and abstract reasoning and is the sole living representative of the hominid. Man thrives on ideas and lives by his wits, not by brute strength (Tim 2012 and Shelley 2002). The term *man* carries the usual reserve for an adult male, with the term *boy* being the usual term for a male child or adolescent. It is also sometimes used to identify a male human, regardless of age.

Like most other male mammals, a man's genome typically inherits an X chromosome from his mother and a Y chromosome from his father. The male foetus produces larger amounts of androgens and smaller amounts of oestrogen than a female foetus. This difference in the relative amounts of these sex steroids is largely responsible for the physiological differences that distinguish men from women (Hannema and Hughes 2007). For males, the differentiation process is started by the sex determining Y gene, also known as the SRY-gene on the Y chromosome. This gene generates the necessary biochemistry inside of a male foetus for him to develop male sex organs. The embryonic gonads secrete a protein called the anti-Müllerian hormone, which causes the Müllerian ducts to degenerate. It also causes the Wolffian ducts to develop into the vas deferens and the seminal vesicles. The undifferentiated gonads develop into testes and other structures such as the prostate gland and the scrotum. This illustration shows the location of the SRY-gene on the Y chromosome (U*S National Library of Medicine, 2015*). Oyerinde (2000) and Oyerinde and Onifade (2001) concurred that during puberty, hormones which stimulate androgen production result in the development of secondary sexual characteristics, thus exhibiting greater differences between the sexes. However, there are exceptions to the above because some intersex and transgender men are generally without regard for reference to particular sex differential matters.

Mr. Vice-Chancellor Sir, for the purpose of this lecture however, I am reverting once again to the holy books that refer to the human race as man notwithstanding whether the human is man or woman, boy or girl, children, youth or adolescent. It is in this

sense that the word *man* refers in this lecture. Moses in Genesis 1:27 affirmed that "God created *man* in his image, in the image of God created he him; male and female created he them". In Surat Al-Teen 95:4, Allah said, "We have created man in the best of morals and the best way from clay" (32:7).

The Concept of Health Education

Health education is education for life in that it involves a combination of learning experiences designed to help individuals, families and communities improve their health, by increasing their knowledge and skills while motivating them to apply these to influencing their health promoting habits and attitudes (Oyerinde 1992, Oyerinde 2007). Therefore, emphasis is placed on skills necessary for promoting appropriate lifestyle behaviours and practices that will prevent diseases and enhance well-being as against mere theory in teaching and learning.

Fig 1: *Teaching health promoting lifestyle practices*

The objectives of health education are broadly itemised as to:

i. Develop health education curriculum for the training of teachers and learners.
ii. Provide participatory learning experiences and information for the development of knowledge, attitudes, skills and desirable habits in relation to personal and community health.

iii. Evaluate learner's progress towards development of health knowledge, attitudes, skills, behaviours and practices (National School Health Policy 2006).

According to the National School Health Policy (2006) and Oyerinde (2011, 2012) the elements of a health education programme include but not limited to:

i. Curriculum offering (meaning teachers and learners' core activities):
The teaching and learning of health education shall be skill-based, adapted to different age groups and background of learners with uniform curriculum to enhance positive health attitude and practice. Even though not limited to these, the following broad areas are covered by the Health Education Curriculum:

- Personal Health
- Disease prevention, control and management including HIV/AIDS
- Mental and Social Health
- First Aid & Safety Education
- Community Health
- Family Life Education
- Environmental Health
- Maternal and Child Health
- Nutrition
- Consumer Health
- Drug Education
- Ageing and Death (Bereavement) Education
- Parts of the human body
- Health Agencies

ii. Teaching and Learning Materials Development:
Appropriate teaching-learning materials such as textbooks, teacher's guide, and learners' workbooks, IEC materials (fliers, posters, charts and story books) are to be developed for all levels. Teachers of health education are encouraged to adopt and adapt Teaching-Learning materials for the effective delivery of health information.

iii. Infrastructure:
Provision of facilities and equipment which encourage appropriate skills development and utilisation in line with approved minimum standard for schools (classrooms, lockers and chairs, laboratory/designated rooms for practical, toilets and water points) and proper maintenance mechanisms of the facilities and equipment shall be put in place.

iv. Personnel:
Health Education teachers, cognate and other support staff are to be trained, re-trained and empowered to deliver effective, up-to-date information and knowledge on health education.

By way of definition, the Health Education construct has been defined by as many people as we have authors. Amidst all these and based on my experience of over thirty-five years as a Health Educator, I have come to settle with Health Education as being "a body of knowledge with social, psychological, physical and intellectual dimensions delivered through formal and informal scientifically designed pedagogical processes with the intent of bringing about positive behavioural change in the individual, families, work place and the community".

Who Then is the Health Educator?
The health educator teaches people about behaviours that promote wellness. He/she is someone who is academically and professionally prepared to deliver core health information to people and possesses required knowledge and skills based on theories and research that promote health education and behaviour change in individuals and populations to prevent diseases, disability and premature death. He/she has training in areas described above. What sets the health educator apart is that they are up to date in education requisites that enables them to deploy the health knowledge and skills into teaching of wellness through sound pedagogic approaches, publishes health education materials and information.

The Moderating Role of Health Education
The meaning and broad objectives of health Education expressed above depicts the power of it's moderating influence on lifestyle practices towards improving the health, attitudes, behaviours and conditions of individuals, homes and communities in the face of all negative social, economic, environmental, pathogenic, food scarcity, security and medical care challenges facing man.

Death
Science has interfered with the process of life and also in defining death itself. Oyerinde, Awoniyi and Oyerinde (2016) conclude that one of the challenges in defining death is in distinguishing it from life. At a point in time, death would seem to refer to the moment at which life ends. However, determining when death has occurred requires drawing precise conceptual boundaries between life and death. This is problematic because there is little consensus over how to define life. Death is now viewed in terms of factors beyond the presence or absence of vital signs called or

referred to in general, as clinical death. There are many scientific approaches to the concept. For example, brain death, as it is in the case of medical science, defines death as a point in time at which brain activity ceases. For example, a patient with working cardio-pulmonary system could be pronounced brain dead. As scientific knowledge and medicine advance, a precise medical definition of death becomes more problematic (Safar, (1988); Appel, (2005).

Vice-Chancellor sir, for the purpose of this lecture, I have settled for 'death' being the termination of all biological functions through biological dysfunction at any stage of life. This is a physical reference to the phenomena that points to the end of all biological processes that sustain a living organism (cessation of blood circulation and breath). Death has commonly been considered a sad or unpleasant phenomenon due to the affection for the victim, termination of bonds, socialisation processes and irrational fear of death as well as things associated with death otherwise referred to as death anxiety or necrophobia. Death causes anxiety, grief, and emotional pain which can lead to depression or mood swing, sympathy, compassion, solitude, psychological and psychotic conditions, and suicide (Oyerinde et.al 2016).

The World Health Organisation (WHO) (2011) reported an annual global death of 55.3 million people, an increase from the 1990 figure of 47.5 million people. Death is on the increase in Africa and other developing countries especially due to ischaemic heart disease followed by stroke, chronic obstructive lung disease, cerebrovascular diseases, and lower respiratory infections WHO (2016). In industrialised countries such as the United States, the United Kingdom, and Germany, 90%, nearly nine out of ten of all deaths are related to senescence which is the state of being old or the process of becoming old (*Webster Dictionary* 2018).

According to Oyerinde *et al* (2016), signs of death or strong indications that a human being is no longer alive are:

1. Cessation of breathing
2. Cardiac arrest (no pulse, heart rate) then the following observations are checked:
    a. *Pallor mortis:* paleness which happens in the 15^{th} – 120^{th} minutes after death.
    b. *Livor mortis:* a settling of the blood in the lower (dependent) portion of the body.

c. *Algor mortis:* the reduction in body temperature following death. This is generally a steady decline until matching ambient temperature is achieved.
d. *Rigor mortis:* the limbs of the corpse become stiff (Latin rigor) and difficult to move or manipulate and finally;

3. Decomposition, meaning the reduction in body tissues into simpler forms of matter, accompanied by a strong, unpleasant odour.

Going by the suggestions of Erin (2014), the general situations above apply to the particular challenge of defining death in the context of medicine. It is also possible to define life in terms of consciousness. When consciousness ceases, a living organism can be said to have died. One of the notable flaws in this approach, however, is that there are many organisms which are alive but probably not conscious (for example, single-celled organisms). Another problem is in defining consciousness, which has many different definitions given by modern scientists, psychologists and philosophers.

In further defining death, science has added another dimension to it; even though the moment there is cessation of heart beat (cardiac arrest) and of breathing, death could be said to have occurred, the development of Basic Disaster Life Support ((BDLS), Core Disaster Life Support (CDLS), Extra-Corporeal Membrane Oxygenation (ECMO), Cardiopulmonary Resuscitation (CPR) and prompt defibrillation have rendered that definition inadequate because breathing and heartbeat can sometimes be restarted. Events which were causally linked to death in the past no longer kill in all circumstances because without a functioning heart or lungs, life can sometimes be sustained with a combination of life support devices, organ transplants and artificial pacemakers Oyerinde, O.O. (2001) and Alexander, (2006). However, whatever it may be, whether or not "brain death" or "biological death" is experienced, the end of the story is death. When all the electrical activities in the brain ceases, it is presumed that an end of electrical activity indicates the end of consciousness. The Electroencephalography (EEG) may be used easily to determine the life ending process called death thereafter Henneman, Elizabeth & George (2004).

According to the WHO Media Centre Fact Sheet (2017), the leading causes of death in developing countries are infectious diseases (422.1/100,000), road accidents (60.2/100,000), natural disasters (51.9/100,000), security problems (445.4/100,000) and lifestyle anomalies. Whereas in the developed countries, the leading causes of annual death are atherosclerosis and heart disease (3,512,000 people), stroke (3,346,000 people), cancers (1,595,000 people), diseases related to obesity (1,500,000 people), and ageing. By extreme wide margin, the largest unifying cause of death in

the developed world is biological ageing, and various ageing complications and associated diseases. Out of the roughly 150,000 people who die each day across the globe, about two thirds die of age-related causes. In industrialised nations, the proportion is much higher, approaching 90%. All these could be attributed to improved medical capability and availability. However, in the developing nations, inferior sanitary conditions and lack of access to modern medical technology make death from infectious diseases, more common than in developed countries. According to WHO Death Cite Note (2004), one such disease is tuberculosis, a bacterial disease which killed 1.7m people in 2004 while another is malaria, which causes about 400–900 million cases of fever and 1.3million deaths annually.

HIV/AIDS death toll in Africa may reach 90 – 100million by 2025. The most common conventional causes of death in industrialised countries are cardiovascular diseases, cancer, Alzheimer's disease and accident (in that order). Other specific causes of death by percentage of annual rate in 2002 include:

Table 1: *Causes of Death by Percentage of Annual Rate in 2002*

S/No	Diseases	%	Causes
1.	Assault homicide	0.7%	Hopelessness
2.	Diseases of the heart attack (USA mainly)	28.5%	Fat, meat and lack of rest
3.	Malignant neoplasms cancer	22.8%	Cigarette
4.	Cerebrovascular disease, stroke	6.7%	Hard Drugs
5.	Chronic lower respiratory disease like emphysema, chronic bronchitis	5.1%	Cigarette, Marijuana
6.	Unintentional injuries accidents	4.4%	
7.	Diabetes	3.0%	Sugar/ multiple drink
8.	Influenza and pneumonia flu & pneumonia	2.7%	Infections, Care free
9.	Alzheimer's disease Alzheimer's senility	2.4%	Old age/ageing, eating of meat
10.	Nephritis and nephrosis kidney disease	1.7%	Low water intake
11.	Septicaemia systemic infection	1.4%	

S/No	Diseases	%	Causes
12.	Intentional self-harm suicide	1.3%	Stress, depression
13.	Chronic Liver/cirrhosis liver disease	1.1%	Alcohol consumption/meat
14.	Essential hypertension called high blood pressure	0.8%	Meat generally swine/pork, fatty food, salt etc
15.	All other causes	17.4%	

Source: *National Vital Statistics Report (2004).*

Death through iatrogenic causes were not included in the above rankings, they are deaths due to mistakes caused by the actions of health professionals which by some estimates is the third leading cause of death in the United States, Journal of the American Medical Association, (JAMA), (2004).

Since 2005, cancer has become one of the leading cause of death for people under the age of 85, (although the total number of deaths from cardiovascular disease for all ages is still slightly higher than for cancer). Note that of all cardiac disease deaths occurring in 1999, about 63% of those deaths were sudden deaths (which may be an indication of poor health seeking behaviour). Nearly three-quarters of the sudden cardiac deaths occurred outside of a hospital. Among those who died of sudden cardiac death, women were nearly 25% more likely than men to die outside of a hospital — may be an indication that women more often delay in seeking help for cardiac symptoms than men (Centre for Disease Control and Prevention CDC, 2005). Many of these deaths are preventable through simple obedience and adherence to established health promoting laws and practices.

How Does Man Kill Himself?

This section concerns more with issues related to infectious diseases, accidents, environmental disasters, security problems, lifestyle and eating anomalies. I have therefore spent time to treat in detail, the core issues surrounding what man ought to do but which he has left undone and what he ought not to do but is doing and which greatly relate to his health on a day-to-day basis and result in death in instalments.

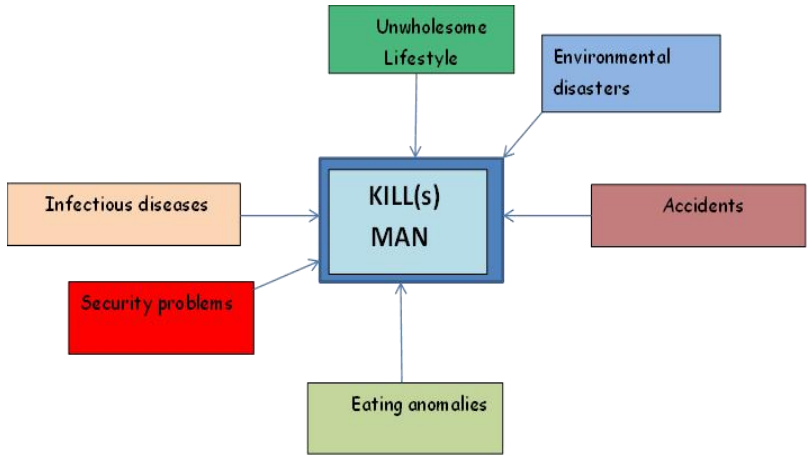


Fig. 2: *Issues in focus*

1. Death in the Environment

In the words of Chalke (1974), the understanding of what constitutes the environment is myopic in some and localised in others. In some people, it is so generalised as to convey any meaning. For those with a small understanding, it might be because of the difficulty experienced in measuring the health effects of environmental hazards at an early stage. This fact is more implicated because of the dynamics in technological advancement leading to emerging environmental health problems. The problem of this is that when on the long run, the effects are noticeable, the dramatic consequences are not linked with the environment, but to culturally derived outlets such as linking the conditions to spiritual, demonic and occultic influences especially in most indigenous communities (Oyerinde (1995; Oyerinde, Oniyangi, Fagbamila, and Anike Grace, 2016). This may not be different in some advanced civilisations and communities. In its broad sense, the environment has its influence on all the facets of life; school, economy, health. The list is in-exhaustive. It is clear that for those whose knowledge of environment is general, they may not be able to keep a clear focus on what makes or mars the health of himself or those of others around him. All living things are influenced, to an enormous extent, by their surroundings. The large number of circumstances which have effects for good and evil on the organism is grouped as environment. Among these influences which may affect life are climate, shelter and food supply. A community which is poorly housed and fed and which has low standard of hygiene and sanitation will inevitably suffer from ill-health and diseases (Oyerinde 2010).

The term environment, in a broad sense, refers to physical and physiological environments. The first consideration is the physical environment. According to Robbins, Powers and Burgess (2003), a list of the physical environmental concerns considered to make marked impacts on the health and life of humans include:

- The earth's protective ozone layer which is its shield against the dangerous effects of the ultraviolet rays is rapidly being depleted by the growing amount of man-made pollutants and chemicals whereas the health educator teaches the ingredients of protecting the earth's ozone layer, man has relentlessly degraded the environment and by so doing encouraged the depletion. According to Oyerinde (2010), man is in constant use of the major elements of ozone depletion in the form of aerosol sprays, refrigerants, plastic foam, and cleaning fluids containing Chlorofluorocarbons (CFCS), which is the chief agent of ozone depletion. This depletion results in such conditions as damaged food crops, ocean plants, increased skin cancer, cataracts and depletion of man through death. Bakeries, dry cleaners, cars, industries have one thing in common ― they produce hydrocarbons, one of the key components of smog and environmental pollution. Hydrocarbons combine with other noxious emission – including carbon monoxide and nitrogen oxides in the atmosphere close to the earth triggering asthma attacks and can be damaging to lungs as cigarette smoke, permanently scarring the lung tissue all combining together to kill man on the long or short run.

- Residues of harmful pesticides especially containing the chemical called "sniper" which is a DDVP, 2,2-Dichlorovinyl dimenthyl Phosphate compound and organo phosphate, herbicides and fertilisers used by man to control pests, weed and enhance crop growth are found in the air, on crops, in the ground, and in water supplies. Inevitably these become sources of contaminants to the human body that eventually lay him open to a number of non-communicable conditions.

- Water and air on which most life is sustained face increasing contamination through the activities of man. Human and sea water animals are contaminated as congruence, yet man goes ahead to consume these. The dilemma of the health educator is that environment in which man finds himself changes rapidly. Oyerinde (2010) asserts that the natural vegetation that used to produce the needed fresh and congenial atmosphere for living is fast giving way to the growth of cities, roads, industrial and social infrastructure,

mechanical, communication and electrical installations, commercial farming centres and forest smuggling; whereas to say that these things must be excluded from life is literally saying that "man should stop living". The result is that the environment is no longer fresh as before, there is pollution in all the major centres of the environment viz – air, land and water. Air pollution from the industrial centres and from the development of slums arising from the growth of cities have their attendant evils and illnesses relating to the diseases of the lungs, throat, stomach and the other organs of the body, including malaria, cholera, tuberculosis, small pox, polio and others that have become persistent, and resistant to drugs and vaccines bringing about the emergence of diseases new to the world in the last twenty years.

- Toxic waste deposits in the environment have fatal effects on the central nervous system. Also, people who live near airports, battery factories, landfills e.t.c are at risk of health conditions emanating from toxic wastes. These emissions form hazardous fumes and smog made up of tiny particles of toxic metals and dust emitted by industry, building constructions; even oil-based paints are very dangerous to health. These substances and fumes inflame the lungs, causing chest pains, making breathing difficult sometimes leading to death through asphyxiation.

- Radon gas and asbestos have been implicated in cancer. Radon is a naturally occurring radioactive gas emitted by soil and rocks. When outdoor, the effect is mild. But in encased areas like building structures, the radioactivity is concentrated. Asbestos, a commonly used insulating material, has been linked to a variety of lung diseases (Oyerinde 2010).

Other environmental issues reported by Oyerinde (2001) as being induced by man are bush burning, loud rock music, traffic sounds, aircraft noise and noisy industrial areas, blasts and radiation associated with stress and stress-related physical symptoms. Radiation is fast becoming one of the factors that are rendering the human environment less conducive for living. The frequent warfare among nations, insurgencies, militancy, cultism terrorism, activities of gun-totting hoodlums and unknown gunmen in Nigeria have increased the incidence of incapacitation, dislodgement internally-displaced persons, deaths of thousands and radiation hazard. It is not uncommon to have world powers testing their highly sophisticated war equipment in deserts and large water surfaces. These bombs and blasts are inventions of man that degrade the environment and destroy man. The major records and facts about atomic bomb available to all ages since after the Second World War is that

recorded for Hiroshima and Nagasaki (Oyerinde 2001). Suffice to say that the aftermath of these radiation and blasts include deformed babies/offspring, death from cancers and general debility (Kogan, 1970, Kaine, 1981, Kjellstroin, 1988, Balogun 1993, Oyerinde 2010).

According to Robin, *et al* (2003), the second consideration embodies infectious diseases arising from pathogenic microbial agents (physio-pathological). The environment is invaded by highly microscopic organisms detected by science and named virus, bacteria, fungi, protozoa, spirochete etcetera. Oyerinde (1996), Sefton, (2016), concur with other studies on the multiplication of germs, bacteria and viruses which show that bacteria and viruses multiply in a progressive manner from their thousands to their millions especially in an environment of filth, dampness and poor sewage disposal. Some of the known disease germs according to the Infectious Diseases of Society of America (IDSA) (2008) are now becoming resistant to treatment; indeed drug resistant diseases are becoming an epidemic while new ones are being detected; Ebola, HIV, Marburg virus, Lassa fever, legionnaires disease, hanta virus, hepatitis—all of them have untold effects on man in terms of costs, misery, lower productivity, shortening of life (death), wasted resources, loss of valuable skill, high emotional spillage and heightened psychological instability. Attention focussed on such factors as sewage disposal, sanitation and hygiene, food supply reveal that they are precursors of death to man when poorly handled and managed. It is only when all unhealthy conditions are removed from the environment that cured health problems do not re-occur within a short while to terminate life (Oyerinde, 2010).

A third consideration is that the environment presents man with certain natural occurrences like earthquakes, flood, volcanic eruptions, typhoons, storms etcetera that destroy life and disrupt society (NERDC/UNICEF, 2005) and Musa, (2006). In terms of natural catastrophes, we have accidental deaths or incapacitation arising from incidences like flood and sudden gusts of wind that accompany thunderstorms. In addition to al these are radiation influences and blasts (Olatunji, 1979; Oyerinde, 2001). The dilemma of the health educator is that the fact presented about most environments is the truth. Man must live and cope with the hazards the environment presents or die in the process. Unfortunately, recommended pragmatic and healthful approaches are flouted willy-nilly. To remove everything in which there is an element of danger from our lives would be to stop living. Rather than doing that and bringing life to extinction, man must adopt means and be knowledgeable, through health education, about such means in which to live a healthful and prolonged life span.

Fig 3: *House along a flood plain - A risky behaviour*

Fig 4: *Houses along earth's line of weakness*

2. Death in the Kitchen/Diet

What the health educator teaches is that life is a continuous chemical process going on in the cells of the human body. The sum of all chemical processes going on in the cells is termed metabolism. To maintain its life processes, a cell requires materials for energy, materials for building, upkeep and protection, materials for the regulation of cell functions. Any substance not injurious to cells and which provides cells with energy or materials for building, upkeep, protection: that regulates cellular functions is classed as food (Oyerinde, 1994; Oyerinde, 2005; Obiyemi and Oyerinde, 2008 and Oyerinde and Owojaiye, 2008). Most foods satisfy these criteria while some meet two or even three of these requirements. In a logical sense, any substance taken into the system that is injurious, which does not meet any of these criteria and alters body functions do not register as food and may be classed as "poison" because of their deleterious influence on the body.

It is evident from the meaning of food that it is an essential factor for life, besides and in addition to air, water, shelter and clothing. Food should be adequate and contain a sufficient amount of all substances necessary for fulfilling the physiological needs of the human body for energy, maintenance and replacement of body tissues to make meaning.

What we eat, how we eat, when we eat all have great implication for health. One can eat to remain healthy while the possibility is also there to eat to death. This reminds me of Joe Crews' view in *Amazing Facts* (2017) that three-fifth of the word DEATH is EAT. The average person may be poisoning and killing himself day-by-day with the food he eats. For instance, only 10 percent of Americans follow a diet consistent with the nutrient recommendations outlined by the U.S. Department of Agriculture's

"Dietary Guidelines for Americans". The typical American diet is rich in saturated fat, trans fat, salt and sugar and lacking in fruits, vegetables, whole grains and fibre. According to the National Alliance for Nutrition and Activity, your diet significantly contributes to four out of six of the top leading causes of death (Elle 2018).

The health educator believes that since the consumer was not there at production level of some of his food purchased, he hence depends on the care taken if there is any at all, by the producer, honesty of the industrialists and government to see that the products are wholesome, hygienic, free from harmful substances, honest labelling and that it meets the salient elements and characteristics of food in its meaning. The dilemma of the health educator is that often than not, these standards are not adhered to. In order for food to be health-giving, it must:

i. Contain appropriate vitamin and trace elements.
ii. Be of a consistency to promote dental hygiene by chewing and the rapid removal of sugar potentially harmful to the teeth.
iii. Be digestible.
iv. Contain a sufficient quality of indigestible material to form adequate bulk and consistency of faeces to promote proper defecation.

In essence, for food to be of any significance, the six basic constituents of food must be present in a meal referred to as an adequate meal or balanced diet:

- Carbohydrates
- Fats
- Proteins
- Vitamins
- Mineral and water

A healthy body is a dedicated balanced ecosystem, and a balanced diet helps to maintain that balance, (Bishu, 2012; Edgar, Edgar and Maurico, 2018).

The dilemma of the health educator is that whereas the major nutritional uses of food types and their sources have been well addressed and taught by health educators and other allied health practitioners including a myriad of nature healers, man still systematically kills himself through what he eats, his eating lifestyle and what he brings out of the kitchen. These I will address in a global perspective and not only the

perspective of sapped, developing and poor communities that make man to suffer imperfect health, loose economic gains, lays him unfit and finally claims him in death.

3. Common Harmful Eating Trends that Claim Human Life

Civilisation and development in the food industry has brought into focus the words of Paul Bragg in his famous cookbook, that "from birth to old age, the average individual never experiences the taste of real natural food". He poisons himself day by day with the food he eats. The sensitive taste buds have been so polluted by unnatural, artificially-seasoned and stimulating foods to the extent that most people cannot appreciate the fine, delicate flavour of natural foods anymore. To many people, foods that are not seasoned one way or the other do not seem good or agreeable to them. Many eat only if the food looks good, they do not question whether it is healthful or death-dealing.

According to Crews, (2017), the civilised man is not satisfied with the natural food. He must do something with it before he feels it is fit for him to eat. His food must be fixed, hashed, mashed, smashed, boiled, broiled, hiked, pickled, preserved, flavoured, salted, creamed, dried, roasted, fried, greased, peppered, vinegar-laden, smoked, toasted, crushed, rolled, milled, oiled, fermented, beaten, sweetened, spiced, soured, peeled, shredded, steamed, braised, coloured, and otherwise seasoned (Oyerinde, 2004, 2010; Elle, 2018).

Mankind has developed and has indulged in increasing desire for rich food until it has become the fashion to crowd all the delicacies possible into the stomach especially at parties and restaurants where rich dinners and late suppers are served consisting of highly seasoned meats, all forms of sea foods like oysters, shrimps, crabs, clams, lobsters, crash, eels with rich sauces, cakes, pies, ices, tea, coffee, junk food etcetera. When these are not so, many people skip breakfast, wolf down unhealthy lunch, grab sodas, coke, chips, candy, doughnuts, or coffee and gorge large amounts of foods in the evening.

The outcome of these diets and unhealthy eating habits include sallow complexion, suffering untold agonies from dyspepsia and obesity, ulcers, gastrointestinal cancers, morbidity arising from the aforementioned and even more, including the death of more than 2.8 million people worldwide annually.

According to Wellman (2018), junk food kills more than wars, famine, genocide, dictatorship or murders put together. This is more because overweight and obesity are

linked to these foods. The key to understanding the cause of obesity is in appreciating the concept of calorie lay-up as fat. It is caused by too many calories.

Fig. 5: *Heavy meals and junk foods*

Fig. 6: *Image of an obese man*

As for poverty and the man living in an under-developed world, the trend is slightly different. Oyerinde (2004, 2010) claimed that the picture painted above is antitype to the foregoing in respect of the poor man with an extremely low per capital income, poor educational opportunities and inaccessibility to the influence of civilisation. In most developing countries, the plight of the common man is pathetic. The problem of feeding adequately and properly is the bane to health. Because of poverty that often precedes ignorance and carelessness, many lives are lost to nutritional diseases because the killer in poverty-stricken communities is really ignorance and not poverty.

This assertion is both plausible and acceptable to the extent that even when the rural man (community) has access to natural foods and fresh items, his methods of handling, preparation and feeding is often faulty, unhygienic and inconsistent with dietary and health laws. The meals are poorly selected to the extent that they become deficient in nutritional values while the selection of food items is so haphazard and disobeys health or nutritional laws. Lack of sufficient dietary elements such as proteins, vitamins and nutrient minerals causes various deficiency-related diseases.

Drawing from both Elizabeth and Healthline (2010) the outcomes of lack and of malnutrition are among others, the prevalence of beriberi (vitamin B1), kwashiorkor (protein), goitre (iodine), anaemia (iron) and other mineral deficiencies, marasmus (protein), pellagra (vitamin B3), scurvy (vitamin C), rickets (vitamin D) and

osteoporosis (vitamin D and calcium) leading to deaths. Globally, man's death rates/100,000 from malnutrition range from 0.01 - 2.14/100,000 for Croatia and Dominican Republic for low rate affected countries to 2.17-10.53/100,000 for France and Swaziland for medium rate affected countries and 10.82 - 33.03/100,000 for Ethiopia and Somalia for high rate affected countries with 17.12/100,000 for Nigeria ranking 80th worst hit country worldwide (WHO age adjusted death rate estimate 2017).

4. Death Through Lack of Exercise, Rest and Sleep

Lack of Exercise

Mr. Vice-Chancellor sir, proper exercise is a plus to health; it is health promoting and preventive medicine. Those who are intolerant to exercise, indolent and inactive would like to contest this fact. However, many people have looked into this premise of health and have found with very insignificant doubt, that health, exercise and recreation are related. People that get weary after proper exercise only become so because they are unwilling to strengthen their muscles by exercising and so they become weary at the least exertion (Jatau, 2000; Jade, 2006 and Lam, 2016).

Time was when man did not need any form of formal exercise to augment his health needs. This was because at that time, man survived life through running, throwing, striking, clubbing and jumping. These days, science and civilisation have robbed us of these activities, thus killing man in instalments. There are many labour-saving devices that have taken over from man labour. Women and girls would better be pleased to busy themselves during leisure with light employment as crocheting, embroidering or making tatting than engage in exercise and physically involving recreation. Our armed forces and the police protect us from enemies. We buy goods from nearby stores and groceries and ride in cars and buses or auto-cycles while going to work and visiting friends. Even our leisure activities only demand sitting down. These are further encouraged by drive-in garages, offices and white collar jobs, movies in cinema and in video, escalators and elevators, air-cooled rooms and offices and many other modern conveniences (Oyerinde, 1998, 2010).

Fig. 7: *Image of man in a luxury living room and a luxury car waiting*
Source: N.A

The paradox of this is that even though our ways of life and lifestyles have changed, our bodies have not stopped needing action. We need a sense of well-being that comes from exercise and activity. The body can be compared with a car that gets proper fuel and is tuned and driven regularly to keep it in tip-top shape. The body requires similar treatment (Oyerinde, 2014). The desire to compete physically with others, the need for physical effort, and living for grace and rhythm are natural tendencies which must be given expression and which the health educator teaches.

The dilemma of the health educator is that these things are the daily concerns of the teacher of health education, yet man does not follow the general rules. Whereas, when these are followed, man's state of health—mental, physical, social, emotional spiritual and not mere absence of disease, will be enhanced. Growth is dependent on activity. Activity of the proper kind and amount is required throughout life to live to the fullest. While on the other hand, man kills himself in instalment through inactivity (Robins, Powers and Burges, 2005), (Zsuzsanna, 2011).

Just as over-exertion can deplete vitality, under-activity is of little value to health. Except for invalids, some measure of activity is desirable in order to build up and keep up physiological efficiency at a high or adequate level. Even convalescents and some patients with certain types of cardiac problems are no longer being advised to remain in bed, they are now placed on walking and other relevant routine exercises which are light and moderate. This is based on sound principles derived from studies of physiology of exercise and medicine (Kenji, Genichi, Ken, Yohei, Makoto, Yuko and Shigeru, 2016).

F = Frequency

I = Intensity

T = Time

Fig. 8: *Exercise formula to promote healthy life*
Source: N.A

In Merki, and Merki, (1987), an exercise-active lifestyle is acclaimed indisputably to be beneficial in the generation of more energy, control and maintenance of body weight, management of stress, enhanced minimum properties of the body and management of stress. Further still, it has psychological and emotional attributes that contribute to social, personal esteem and well-being. Daily life challenges are better met; there is increased physical capacity and protection against conditions such as heart disease, osteoporosis, certain cancers and even premature death. Lack of exercise is directly linked with the occurrence of obesity and many people are suffering from this. Some know while some are unaware.

The key to understanding the cause of obesity is appreciating the concept of calories. It is caused by too many of calories. It does not matter if these calories come from fat, protein, sugar or starch, once the body does not use them up, they are immediately turned into starch. It has been noted that every 3,500 excess calories received by the body, one pound fat is placed on deposit. In America alone, 36 million people are at risk by 1993 and according to Wellman (2018), 12.8 million people are killed annually from conditions strongly linked to overweight and obesity such as coronary heart disease (CHD), Ischemia (brain stroke) and diabetes. This is because the problem of these fat-loaded foods is not in just consuming them, they bring about unnatural overeating, they are also packed with harmful fats, toxic chemicals, hormones, mystery fillers.

When compared with people of normal weight, obese or in another word, those who are more than 20% above their ideal weight run the risk of the following:

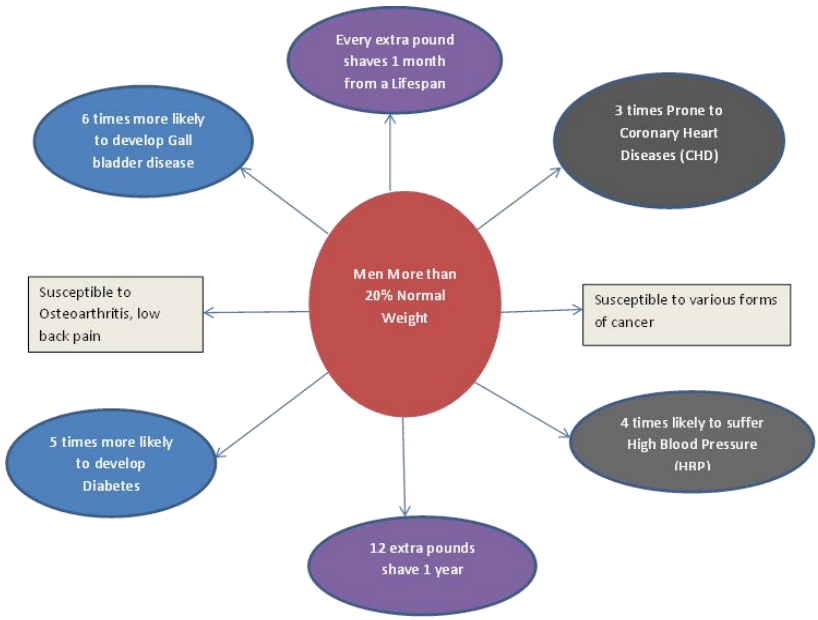


Fig. 9: *Concept map showing problems arising from loaded fat foods*
Source: Oyerinde 2014, Centre for Disease Control and Prevention, American College of Sports Medicine 2015, Wellman 2018

Lack of Sleep, Rest and Relaxation

Trying to sweat an illness away is adding insult to injury. Man has to sleep, rest and relax when he should. Sleep, rest and relaxation are very vital to health maintenance. An individual with no sleeping eye is heading for a mental snap. When we go to sleep, all body activities slow down. The heartbeat is slowed down, the heart rests longer between beats, the nervous system is less active and the blood pressure is lowered. Below is the average sleep and rest recommended for different age groups:

Table 2: *Average Sleep Need For Different Age Levels*

Age in Years	Sleep Need Per Day
6-8	10 -11 hours
9-11	9-10
12-14	8-9
15-17	7-8
18-25	6-7
26-35	7-8
36-55	8-9
56-70	9- 10
Over 70	10 or more

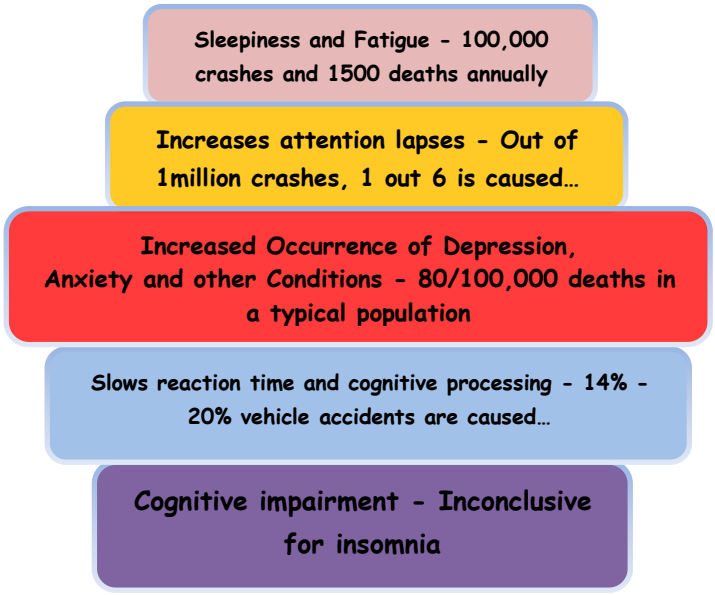
Source: *Culled from Anderson C.L.*

The sleep requirement helps to get rid of fatigue from the body such that one wakes up refreshed and well. To achieve this, there are certain conditions and lifestyles that one needs to adhere to: exercising during the day; avoiding completely or limiting the intake of alcohol, caffeine and tobacco; sleeping in a cool, dark, quiet room; a comfortable but firm bed; going to bed around the same time daily; adopting music or light readings to induce sleep; switching off the television, computers or phones (if they must be in your bedroom) at bed time; singing lullabies to children; using desirable mattresses to enable a complete stretching out and equal support to all parts of the body; using soft pillows that are not too high as to tilt the head forward (no crime though, if you do not like pillows) etcetera (Selmon (1987); Udoh, I. O. and Ajala A. (1991).

Unfortunately, what we find man doing is to cut down on his sleep and rest hours to his detriment leading to sleepiness, and fatigue which are other factors that kill. The world is experiencing serious mortality and morbidity as a result of these two evils which are outcomes of cutting down on sleep and rest. The general slogan "24/7" connotes uninterrupted work or working round the clock. This and other things like poor lifestyles, unfettered use of electronic devices and technologies bring with it attendant associated diseases, injury, accidents, and, at times, deaths (Oyerinde (2004 and 2010). Whatever the cause, insomnia and sleep deprivation result in sleepiness, fatigue, and cognitive impairment during the day. Sleepiness increases attention lapses, slows reaction time and cognitive processing and makes the drowsy driver as dangerous as one who is impaired by alcohol. This was demonstrated by results from studies with adults who were exposed to extended periods of wakefulness and then subjected to grammatical reasoning and psycho-motor, computerised test of hand-eye coordination.

After exposure to 24 and 48 hours of hours of sleep deprivation in three different studies by Oyerinde (1991), Oyerinde and Onifade (2010) and Johnston (2005), results show that the subjects' performance was lowered in cognitive and big muscle activities.

In the United States of America alone, the National Highway Traffic Safety Administration (NHTSA) estimates that at least 100,000 crashes and 1500 deaths annually are attributable to sleepiness and fatigue. This equates to an automobile accident every 5 minutes and a fatal accident every 6 hours. These crashes alone represent $12.5 billion in lost productivity and property damage. Drowsiness also plays a role in crashes assigned to other causes. NHTSA estimates that another 1 million crashes (1 of 6 of the total) result from driver inattention, and clinical studies show that sleep deprivation and fatigue make such attention lapses more likely to occur, (Johnston, 2005).



Source: National Highway Traffic Administration (NHTSA), (2005); Lin Zhu, Zheng and Wei (2014)
Fig 10: *Effects of Insomnia and Sleep Deprivation*

Death Through Drug Abuse, Cigarette Smoking and Alcohol
Mr Vice-Chancellor sir, further to the main objectives of this lecture, it will sound impracticable and hollow if some elucidation is not provided concerning drugs, its nature, character, type, use and deleterious components since we still find ourselves taking one form of drug or the other and visiting our physicians and

hospitals. Drugs have been credited with the treatment of diseases and with helping man to stay fit and feel healthy. Early discovery contributes to effective and enjoyable living, allayed pains, and increased efficiency of bodily functions. Doubtless, these are especially possible with the great improvements in science and technology in the areas of pharmacy and medicine.

Every drug can be abused or misused. When a drug is used in a wrong way, it easily becomes a poison. In large quantities, it becomes fatal. Drugs, when misused or abused have varying effects on the user depending on the nature and class of drugs used. Some have narcotising effects, others are stimulating while others have destructive effects on the tissues of the body. It is because of the danger in the wrong use of drugs that man must selectively use and apply drugs.

Thanks to science and medicine for the training of health practitioners. Before drugs are used, advice should be sought from practitioners like doctors, pharmacists, chemists, nurses and health educators. If a drug is not used according to the direction and prescription of the physician according to Oyerinde (1997, 2004) and others like Adelekan (2000), the same drug is said to have been abused especially when it is in persistent, excessive and improper use without regard to accepted medical practice.

Paramount among the unacceptable use of drug is self-medication. The hazards of self-medication that makes selective drugging very important include:

- Production of unintended, undesirable and harmful side effects.
- Possibility of harmful or even fatal overdoses.
- Treatment of wrong disorder when used just because symptoms are similar.
- Use of several medicines at the same time. Which either alters the effects of one or all of the drugs.
- Repression of symptoms thus masking the progress of a minor ailment till it becomes a major one.
- Delay in treatment until disease can no longer be controlled or cured,
- Unneeded prolongation of drug use, as is evident in the persistent reliance upon laxatives to produce regularity (Olayemi, 1982; Horn, 1983 and Oyerinde, 2010).

Whether a drug is classified under medicinal use or social use or even legally permitted, it is in the abuse of most of the drugs that man has been known to fall victim to their deleterious effects. It is also in its usage that the adage or aphorism that "Man does not die but kills himself'' is apt.

Fig. 11: *Abuse of psychedelic drugs and smoking*
Source: N.A

General Effects of Drug on the Central Nervous System (CNS)

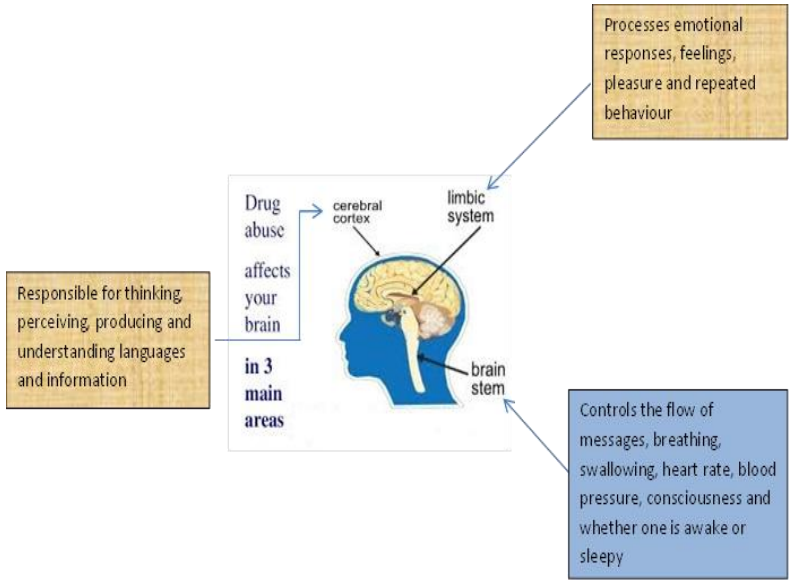


Fig. 12: *Effects of drugs on the central nervous system*

Drugs affect the central nervous system of man either as stimulants or depressants. Effects on the CNS are responsible for alterations that increase body and nerve functions. Stimulants tend to increase brain activity and other metabolic processes to a dangerous extent. Such drugs include cocaine and amphetamine. Depressants on the other hand act to depress or lower body function and brain activity and they tend to reduce mental and physical performance. The drugs help to reduce anxiety

and excitability. These drugs are called sedatives. They become hypnotic drugs with increased dosages to cause sleep. Drugs in this category are referred to as sedative hypnotics. Alcohol and barbiturates are good examples. Depending on the quantity taken, the effects may differ.

Certain drugs, when abused, do distort the personality to such a degree that the individual may become dangerous, useless and a burden to himself his family and society in general. Sometimes they lead to depression, suicidal tendencies and schizophrenia.

Whereas the health educator reminds their students, community and family members of these things, man still goes ahead to indulge in all sorts of wrongful use of drugs leading to ill health of all sorts and eventual death.

Tobacco Smoking, Alcohol and Health

Because smoking and indulgence in alcohol are the two drugs most commonly abused by young men in our society, Vice-Chancellor sir, some time will therefore be spent to discuss them in some, details.

In Nigeria and many other parts of the world, much work has been done on drug use. It has been claimed that the initial reports on drug abuse in Nigeria especially focuses primarily on the use of Indian hemp (Also known as marijuana obtained from the dried flowering tops of the pistillate (female) plant, *Cannabis sativa* or *cannabis indica* and is grown extensively in various countries for the hemp fibre used in the manufacture of rope). This implies that little attention is paid to cigarette smoking by pioneer investigators. They focused on Indian hemp smoking which is an addictive drug in their different studies. Addictive drugs constitute great dangers to individuals as well as to society. Cigarette in its own case has only mild effects on its users while the overall effects are very fatal.

Although it may be argued, that cigarette is a mild or soft drug because the effects on health and mood is delayed, it has been maintained that as many as one out of seven cigarette users go on to hard drugs eventually. Also, heroin addicts (99%) have been found to be previous smokers. These only establish the deleterious nature of cigarette and its smoke and that it does eventually lead to drug dependence (Auiley, Forgacs, Keeling and Thompson, 1986).

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Tobacco smoke contains over 500 chemical components, many of which are known carcinogens or cancer-producing agents. The smoke is made up of gases, organic vapours and particulate matter called tar of which nicotine is one element. Cigarette pipe or cigar smoke varies in chemical composition with the type or tobacco and the temperature of smoking during puffing. Particulate matter which forms about 8% of tobacco smoke contains the greater part of the known cancer-producing agents found in tobacco smoke (Zhang, Ren, Wong, Wu, Shen, Chau, Cho, 2012); Hocht, 2003). The most dangerous of these agents are the polynuclea aromatic hydrocarbon or (PAH) which makes up about 0.08% of the tar and which has been described as the most carcinogenic fraction of tobacco smoke. The remainder of tobacco smoke consist of gases such as nitrogen 59%, carbon dioxide 13.5%, oxygen 13.4% and carbon monoxide 3.2%. There are the presence of irritants collidine, fafural, benzypirine and ammonia. Apart from all above, the manufacturer adds chemical called glycerine to improve the taste.

Of all the components, tar whose constituents include phenol, DDT and benzene-ring group of compounds and nicotine are the particulate constituents that give the cigarette smoke its characteristic death dealing, deleterious, dependence and carcinogenic nature. It is a colourless, powerful poison that affects the nervous system. They have reactions on the cardiac system and may lead to increase in heart rate, release of fatty tissues from adipose stores thus elevating the level of circulating fat (blood cholesterol) which are known as precursors of arteriosclerotic plagues. There is a reduction of blood co-agulation time, reduction of the amount of oxygen delivered to the tissues by the carbon monoxide contents of the smoke. When carbon monoxide is inhaled, it quickly bonds with blood haemoglobin leading to shortness of breath, lowered endurance, brain functions may be slowed; reaction time and judgement are also dulled.

The use of tobacco as a snuff is also common. This is when a powdered form of tobacco is inhaled through the nose. Tobacco is also chewed rather than smoked or inhaled. It is placed in the mouth where physiologically the active nicotine and other soluble compounds are absorbed through the mucous membranes of the mouth and oesophagus into the blood stream. The nicotine levels in these kinds of tobacco use are equivalent to those seen in cigarette smokers.

Findings concerning the hazards and terminal effects of smoking predominantly come from epidemiological studies, animal experiments and clinical and autopsy studies in men. Authors are agreed on the extent to which a cigarette smoker's life may be shortened in their many studies. Among striking findings regarding the

terminal effects of cigarette smoking are those reported of British doctors, American and Canadian veterans respectively.

In all the studies, similar results emerge. For example, the British doctors found that the proportion of men aged 35 years who may die before reaching the age of 65 years is 40% for heavy smokers. Heavy smokers are habitual smokers that smoke 25 sticks of cigarette or more per day. While that of non-smokers is 15%. Further discoveries showed that the average loss of life of a smoker of 20 cigarettes daily is about 5 years. On the average, the habitual smoker loses about $5\frac{1}{2}$ minutes of his life for each cigarette smoked. It should be noted that the time lost is not much less than the time he spends to smoke a stick.

In a study carried out by Hammond after a four year follow-up between 1959 and 1962, it was reported that among both men and women, the death rates were higher among smokers than non-smokers. Also, it was reported that death rates increased with the number of cigarettes smoked per day and the degree-of inhalation. The earlier in life smoking started, the higher the death rate. Further still, death rates for certain diseases were higher for cigarette smokers than for non-smokers. This is true for emphysema, cancer of the lungs, mouth, pharynx, larynx, oesophagus and pancreas; aortic aneurysm and cirrhosis of the liver.

In the study of Hammond and Horn, it was revealed in their classical study of the relationship of smoking to death rate that the increase in death rate is associated with increase in smoking rate. During their study, 7,316 deaths occurred among subjects who smoked regularly. According to them, only 4,651 of these cigarette smokers would have died during the course of the study if their death rates had exactly matched those of men of the same age who have never smoked. The 2,665 deaths were considered as "excess deaths" associated with the history of cigarette smoking. Furthermore, analysis showed that a relationship existed between daily consumption and death rate. Based on data before them it was concluded that the death rate for men who were heavy cigarette smokers (2 packs or more per day) was about 2.25 times as high as among a comparable group of non-smokers.

Happily sir, it has been conclusively investigated and reported by Oyerinde (1997) and others that stopping smoking after undergoing health education improves life expectancy when compared with those of all men without such education over a period of 17 years. According to the findings, this was due to the fact that more subjects in the experimental group gave up smoking shortly before or during the

period of education and the total death rate reduced by 22% for subjects below 65 years and only by 7% among their counterparts.

Besides the terminal effects of cigarette smoking described above and more, certain morbidity conditions are associated with smoking especially cigarette smoking as opposed to use of pipe in cigarette smoking. The differential that exist in the amount of disease conditions emanating from pipe and cigarette smoking results in a lower death rate in pipe smoking than cigarette smoking. This is because of the tendency of pipe smokers not to inhale the smoke whereas most cigarette smokers inhale the smoke, although in varying degrees.

Disease conditions such as emphysema and bronchitis have been established through clinical studies and demographic reports of patients with pulmonary diseases visiting hospitals. For example, Addinton *et al* reported, following a survey of smokers and non-smokers from many countries of the world that cigarette smokers cough more often and produce more phlegm. Death rate from these two diseases bear positive relationship to the number of cigarette smoked. This increase in respiratory symptoms including shortness of breath have been observed among students who smoke. British children who smoke have been found to admit to cough and phlegm more often and to having more respiratory illnesses than those who do not smoke. The report of the Royal College of Physicians (1962) revealed similar findings. Even though the cause of chronic bronchitis and emphysema have been associated with a number of factors which include dust and fumes, tobacco smoke, sulphur dioxide and infection with respiratory viruses, cigarette smoke is considered a more common cause than all the others put together. The manner in which cigarette smoke contributes to chronic bronchitis is that the chemical inhaled usually irritate the bronchial tubes and alveolar sacs.

The association between cigarette smoking and lung cancer has long been established. For both men and women, persistent indulgence in cigarette smoking is highly associated with the incidence of lung and other cancers. It is believed that the inhalation of cigarette smoke usually paralyses the cilia of the respiratory track and prevents them from removing particles from the bronchi. The result is that tar is deposited on the respiratory passage and the tar and mucus build-up begins to attack the underlying epithelial tissue thus precipitating a cancerous condition.

Other conditions associated with smoking include peptic ulcer and asthma. Even though asthma is not directly caused by smoking, smoky rooms increase the wheezy feeling and shortness of breath felt by asthmatics. The allergic reaction may

also be precipitated by the smell or smoke of tobacco. A survey by Li *et al* (2014) of 36,656 subjects showed that peptic ulcer in smoking men is 2.1 times greater than in non-smoking men and 1.6 times greater in smoking women than in non-smoking women.

Although, researches are on-going on the effect of cigarette smoking on babies of expectant mothers, enough evidences are available and it is widely speculated and justly too, that the health of the unborn child is affected. This is because the expectant mother who smokes experiences general debility as a result; she suffers loss of appetite, insufficient sleep and all these may cause untold damage to the developing baby due to inadequate blood supply to it. It can also cause spontaneous abortion, lead to premature and stillbirths. The breast milk is contaminated with nicotine and the tendency is there for the baby to suffer from pneumonia and bronchitis. There is enough evidence that children of smoking mothers score less in intelligence tests. The foetus also has an increased heart rate, weighs less and the mother is drawn quicker to menopause.

Alcohol

In the case of alcohol, time will not permit me to delve into its nature, types and different uses to which it can be put into. It will suffice here to state that the fermentation action of yeast upon fruit juices is the basis for the production of alcohol which people drink. It is most commonly known as intoxicant, and a narcotic; alcohol has a variety of other uses.

It should be noted that alcohol is not food especially those that are distilled. This is because it directly goes into the blood stream and is not digested. Unlike food, which takes some time before digestion is started or completed.

The nervous system gets priority supply of blood. It is therefore the same system that gets priority supply of alcohol when taken. This explains why alcohol affects balance when its quantity in the body becomes out of tune with body composition. It affects the motor cortex of the brain. At this point, inhibition is lost and drinkers become careless, loose and unscrupulous in action, speech and reasoning. When users of alcohol drink to stupor or when it affects their reasoning as described above, they may experience accidental deaths and sustain fatal injuries.

Alcohol in any quantity in the blood system causes the small blood vessels to expand (dilate) thus permitting larger quantity of blood to flow close to the surface of the skin which creates a feeling of warmth. This explains why drunks

sweat profusely and thus loose the much-needed body heat and electrolyte which may lead to shock ending up, at times, in fatality.

It is not uncommon for heavy drinkers to suffer malnutrition and diarrhoea. When large quantities of alcohol is taken, the liver is affected, therefore, it becomes inflamed or enlarged leading to cirrhosis of the liver. A manifestation of this inflammation apart from the palpated sign is the tremor of the hand (unsteady hands), more morbidity and eventual mortality. When alcohol concentration is 4-5 % in the blood stream, it causes unconsciousness or stupor. Increase in this may affect cardiac and respiratory functions. Under these conditions, death may occur.

There are also disturbances in the body chemistry and as such, there can be a hangover, headache, fatigue, restlessness and thirst the following day. The headache is due to disturbances in the liver, the thirst due to its dehydrating effect and fatigue due to loss of sleep.

Alcohol has narcotic effect on the functions of the body tissues that may be direct or indirect, immediate or delayed. Expectant mothers for instance can pass alcohol through the umbilical cord to the unborn child. Excessive use of alcohol creates vitamin B deficiency and hence beriberi. Deficiency in niacin created by alcohol leads to pellagra. The deficiency in Vitamin B complex thus created is a surgical risk in the possible application of anaesthesia overdose which may be too much for the body leading to death. Other specific diseases caused by indulgence in alcohol include:

1. **Polyneuropathy:** This is a burning sensation of the sole of the feet, pains' in legs and walking difficulties.
2. **Wet Beriberi:** It is a swelling of the legs, and the heart. It is at times called bare heart.
3. **Dry Beriberi:** This is manifested by excessive mental state of anxiety.
4. **Alcohol Pellagra:** This means the eruption of spotty reddening of the skin, ulcers may develop on the tongue, lips, palate and gum. It is a deficiency disease due to insufficiency of Vitamin B. It is a form of neuritis with pains, paralysis and oedema of the extremities.
5. **Cirrhosis of the Liver:** It is an increase in the fibrous connective tissue.
6. **Alcoholism** The World Health Organisation defines it as an outcome of excessive drinking of alcohol causing dependence, disrupting mental social, economic or personal relations requiring treatment and counselling. In essence, it is a disease which causes disorder of behaviour.

People who take excessive alcohol are susceptible to various other diseases including pneumonia, tuberculosis (no inhibition of who he mixes with), venereal diseases including HIV and AIDS (for the same reason of feeble mindedness), he becomes childish, coupled with lack of reasoning (Oyerinde 2004, 2010).

Personal Health Issues

The human body is like a machine that needs good maintenance for it to function properly. It will develop problems if it is neglected, especially when basic health care routines are overlooked: teeth may be lost, skin permanently scarred, vision impaired or feet damaged. A few of the maintenance factors like food and nutrition, exercise, sleep, rest and relaxation have been discussed earlier on in this lecture.

Another aspect of taking responsibility for the body is watching out for signs of trouble. Tooth-aches, blurred vision, skin infections, and corns are signals that special help is needed. All of these contribute to personality, health and the hygienic state of the body. The health educator is therefore burdened with teaching that individuals should make it a duty to care for it, understand its needs and act in preserving it from harm and defilement. This can be achieved through personal health because the aim is to motivate regular check-ups and making caring for the body a daily habit (Oyerinde, 1994).

The main concern is to prevent health problems associated with sanitation and hygiene. However, the general behaviour is for us to ignore these vital signs and symptoms thereby jeopardising general health and fullness of life. By way of definition therefore, personal health refers to the way the body is maintained and managed to keep it well, fit and groomed. The basic approach to doing this is to care for parts of the human body in specific ways that suit the structures, each of which requires care and attention. Caring for the body is then a lifelong responsibility. The habits developed early in life will affect the way we look and feel and whether we are begging for good health or an early death. The fitter you are, the healthier you get and vice-versa (Talabi 2014).

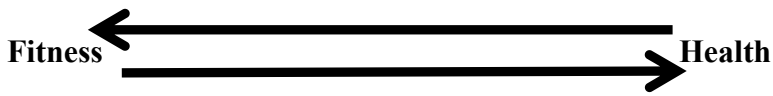

Fig.13: *The Fitness/Health Continuum*

Taking care of the body keeps pores of the skin opened for proper functioning. In addition, bacteria and other pathogens are prevented from breeding on the skin. These bacteria and pathogens, if allowed to breed on the skin cause diseases like *tinea-solium*

(ring worm), infected acne, pimples, boils, viral warts and the like. Accumulation of dirt, sweat patches, loose dead skin cells and excessive oil on the skin cause body odours which are consequent on poor hygiene. Care of the skin on a daily basis helps a lot in preventing these and others not specified here. The dilemma here is that in the event that there is a breach in the integrity of the skin, heamatogeneous dissemination of bacteria, virus and pathogens may occur leading to septiceamia which could be fatal (1.4% of deaths; 66.8/100,000 people) if untreated or unattended to. Dirty hands and nails harbour germs. Failure to practise hand washing at critical times leads to infections paramount among which is diarrhoea infection, a major cause of dehydration and death among children (Oyerinde 2010, 2011).

Death from Unprofessional Handling of Emergencies or Poor Risk Management

An emergency is any unexpected and sudden situation or event which occurs and requires immediate action. It may be a condition that immediately threatens the life or the physical welfare of an individual. Many people die needlessly following accidents owing to the way they were handled after the accident. Unfortunately, these situations are hidden and unknown even to the victim and sufferer that often when the critical point is reached, the sufferer cannot even help himself. When this occurs, an emergency has arisen. A good illustration is when a diabetic gets to know of his problem only when he goes into glycogenic coma. Another is when an epileptic goes into a grand-mal seizure. These two examples have created emergencies often, and when badly handled, have led to outright death or complications of a serious nature. Other conditions with similar effects are heart diseases, asthmatic attacks, allergic conditions to antibiotics, biologics, drugs and sulphonamide compounds etc.

In civilised communities, sufferers of certain conditions carry identifications and procedural management instructions on their persons. In primitive communities or in communities with less awareness, this is not so. The reason for carrying these on the persons of sufferers is to enable those around know what to do and what steps to take to save the affected person's life.

On the other side of these slow killers and or allergic killers are the emergencies arising from accidents whether home, school, recreation areas, industrial sites, on the road or from natural catastrophes as in floods, quakes, blasts and radiation. These accidents and natural catastrophes result in injuries and conditions with varying manifestations from serious but general conditions as asphyxiation, shock, poisoning to localised conditions and injuries like head injuries, fractures, dislocations, sprains, eye and ear injuries, burns and scalds, perforations and even bruises, abrasions and lacerations. They also manifest in conditions of great magnitude like crushes, drowning, and fatal internal haemorrhage. It is pertinent to mention that one of the ways to handle emergencies is the application of first aid

measures. The need for first aid arises only when an emergency surfaces. That is, when someone suddenly becomes ill or hurt and when no medical doctor is around to give proper medical care. Once first aid attention has been given, one should call upon a medical doctor to give proper treatment. First aid is not medical treatment and should never replace medical treatment. Only a doctor can really treat an injury or illness. All that first aid does is to prevent further illness or injury until the doctor comes. Again, first aid care given under an emergency treatment does not mean assistance given in a hurry or a rush (Oyerinde 2001, 2004).

The word emergency implies to most people that time is of the essence, that what is done must be done at once, that speed at all costs is required. This is not necessarily true. A quick appraisal of the seriousness of a situation is of course important to be able to determine the triage which is the assignment of degree of urgency to illnesses, injuries or wounds to decide the order of attention given to a large number patients or casualties (First Aid 2017). Certain conditions as rapid haemorrhage must be handled quickly and properly arrested before life is bled out of the victim's body. But in other conditions blind haste may entail greater danger than judicious delay and indeed, man has killed himself in this way. Many lives have been snuffed out because a person with a broken neck was handled carelessly while being removed from a wrecked car. Often, an injured person's prospect of survival is reduced by crowding him into a cramped or awkward position in the back seat of a passenger car rather than waiting for an ambulance. The dilemma of the health educator is that these ambulances and experts, many times in the African setting, never arrive neither are the experts always available First Aid 2017).

Fig. 13 (i): *Auto crash with untrained aiders trying to bring out a victim*

Fig. 13 (ii): *An untrained hand propping up an accident victim with undetermined injury*

Fig. 13 (iii): *Carrying an accident victim using an unconventional method of crowding into the back seat of a vehicle*

Fig. 13 (iv): *Image of a standard and convertible stretcher/wheel chair*

However, health education insists that in case an emergency arises, victims must only be moved when it is clear that an ambulance will not arrive, it must be done with great caution. The body should be kept straight and horizontal, not lifted into a semi upright position and not allowed to sag, jack-knife or twisted. More generally put, the victim must be moved according to the rule of good medical practice. Time will not permit me here to discuss some general emergency conditions and the response measures to be adopted. Still, it shall suffice to state that each condition must be handled by best hands around, following the A, B, C, rule (A = Air; B = Breathing; C = Circulation) of administering first aid so that complications and eventually death are forestalled (Oyerinde, 1994).

My Research Efforts in the Key Areas Discussed Above

My research effort spans largely school health, drug education and health promotion. However, those brought out in this discuss are those that are related to the key areas discussed above viz:

Environment Related

My first shot at environmental related study was the one I undertook in 1996 on sewage disposal in post-primary institutions of Ekiti and Ondo states, Nigeria. Data was collected using varying standard research approaches including the administration of questionniare on 75 randomly sampled students and 15 principals of schools in Akure, Ondo, Owo and Ado-Ekiti. By a descriptive analysis of data, it was revealed that sewage disposal is a public health problem plaguing post- primary institution in the two states focused in addition to the complimentary factors of the home and communities of students. Based on the findings, health education, with emphasis on environmental health should be compulsory for students and should be taught by specialists.

In 2013, I looked at health workers perception of environmental pollution on the health of the people in Ilorin east LGEA of Kwara state, Nigeria. A validated questionnaire was administered

on 300 stratified and randomly sampled health workers. Adopting a descriptive research design, data collected was analysed using the inferential statistics of the Chi square 0.05 alpha level. Findings revealed that water pollution is the most implicated while all forms of pollution affect the wellbeing of the people focused. It was therefore recommended that existing enabling laws to protect indiscriminate dumping of refuse and discharge of wastes should be enforced.

Nutrition Related

My contribution to knowledge in nutritional strategies in 2008 was a meta analysis that leaned largely on the 25 years of research documented by Browen and Beresford (2002).The analysis stressed the adoption of Dietary Reference Intake (IDRS), the Food Guide Pyramid (FGP) and the ABC (A' for Fitness 'B' for Building a Healthy Base and ''C'' for Choosing Sensibly) for health enumerated by Stober and Walker (1989) as major strategies and approaches to guide against obesity and allied health problems including risk reduction for chronic diseases, cancers, osteoporosis, overweight, cirrhosis, elevated blood pressure and risk of stroke. The advocacy of the health educator is that man should pursue the ABC of health and ensure he is guided by the IDRS and FGP to avoid eating to death and or an unhealthy life.

Close in the eels of my work expressed above is another of my study in the same year, 2008 focusing on nutrition related health problems of children that include kwashiorkor, nutritional marasmus, nutritional blindness, beriberi, scurvy, rickets anaemia, cretinism and childhood obesity carried out among nursing mothers in the Oro district of Kwara State. Mothers visiting the hospitals were the population of the study while 30% of them were sampled using simple random sampling technique. Information was gathered with the use of a reliable instrument. It was revealed by the study that in the district under focus, children suffer significantly from the common nutritional health problems and also suffer significant low mental and physical health status. It was recommended that nutrition education should be stepped up at Ante-natal Clinics (ANC) and in adult education centres in the districts.

As a follow up on the 2008 study, I further looked at school feeding programmes of schools in Nigeria to see how it has succeeded in abating the tide of increasing nutrition health related problems of school children in rural and selected urban areas. Using two-structured questionnaire, NUMI and NHKT, the results of the analysis after subjecting the data to descriptive non parametric and the PPMCC statistics, indicated that pupils in sub-urban and rural areas who passed the nutritional health knowledge test did so accidentally due to information gathered from friends, parents and the media rather than from the teachers. It was then clear to me that the nutrition problems may persist giving the rate of poverty and ignorance if drastic steps are not taken. It was hence recommended that Health Education teachers, cognate stakeholders should promote, teach, advocate and motivate school feeding in schools for the acquisition of knowledge and sound nutrition practice in the school, home and community.

Shifting away from the school setting with emphasis on children and adolescent population, I carried out a study in 2012 on the consequences of dietary and exercise lack among civil servants (CS) in Nigeria. It was rationalised that CS do not work as expected, their activity levels are low yet their consumption of carbohydrates junk and "Mama-put" meals are speculatively unbridled. The study purpose was to show the type of diet common among the CS, the nutritional related diseases that constitute their health problems with the intention of revealing how the CS can overcome the dietary health problems probably inflicted on them by themselves including fatigue, food poisoning, stress, obesity, and overweight. Adopting a descriptive research design, a structured inventory (DLPOAHCCS) was administered on 220 civil servants that have worked for over 15 years who were sampled from the Yagba East and West LGAs of Kogi State. Results show that the CS eat between meals, rush their meals in between assignments, consume bulk food items in preference to fruits and vegetable meals and patronise road side food hawkers. It was also revealed that within the spate of carrying out the study, 38% of the subjects gained some weight based on pre- and post-test data. It was recommended that well-articulated break period meals should be organised and incorporated into the civil service welfare package and run by the Ministry of Agriculture and National Resources Home Economics Departments in all ministries and local government offices.

Drugs Related

Between 1995 and 2004 I worked on studies relating to the drug use patterns and behaviour among secondary school students with the intent of extrapolating/applying my findings and recommendations to other groups after all, students are change agents and our students of today live to become adults.

In 1995, a study was conducted to ascertain whether the smoking and drug related problems among young people arise from their need to compensate for certain life needs they have been denied or whether they are aware of the compensatory character of drugs including cigarette smoking. 1,000 students were sampled with the use of the multi-stage sampling procedure from federal and state secondary schools. It was evident from the results of the study that drug users and cigarette smokers have compensatory reasons for taking to smoking and drug use. Specifically, the drug and smoking habits correlate significantly with their needs to compensate for certain failures and disappointments. It was also revealed that they are aware of the compensatory characters of drugs so they apply drugs according to choice and tolerance. To avoid these habits, it was recommended that the drug education component of Health Education should be pursued for students in Nigerian schools and institutions.

Sequel to these findings, another study was conducted in 1997 on the management of drug cessation programmes in selected institutions in Nigeria. The study was considered expedient because despite the numerous studies that examined the prevalence of drug abuse in institutions

of learning and reported intervention programmes by government and non-governmental agencies, adolescents still abuse drugs. It bothered me at that time to ask if institutions have or practise any form of drug cessation programmes, and of what effect or impact are these? 400 university students were sampled by adopting the multi-stage sampling procedure. The study revealed that the institutions in Nigeria have no formal drug cessation programmes. Hence, it was recommended that governments, their agents and patriots' involvement in drug cessation and intervention programmes was necessary.

Mr Vice-Chancellor sir, ladies and gentlemen, in 2004, I went into another drug related study on smoking and drug use pattern and behaviour of fresh and graduating students in tertiary institutions in Kwara State, Nigeria. The study was prompted by the increasing roles of childhood and adolescent indulgence in drug use reported by previous researchers and observed by me in my previous studies. With the objective of ascertaining the drug use patterns, attitudes, behaviours and effects on users with the intent of drawing up interventions that will reduce this scourge among this set of Nigerians.

Using the descriptive survey design, samples were drawn from institutions in Kwara State running the Physical and Health Education programmes at the NCE and degree programmes. I was led to find out that fresh college students scored higher on the attitudinal scale than returning undergraduates and that both group of students scored high in their perception of the elements and effects of drug and cigarette smoking on the body even though they still use, misuse and abuse drugs. It was recommended that health educators should convert the improved knowledge of graduating students by using sound and appropriate pedagogical approaches to obtain health action among students.

Life Style Changes Related

In 1999, a meta analysis was carried out by me on the inactivity problems of the executive who have been found by literature to be at greater risk than their counterparts involved in less sedentary vocations. Discussion of literature and findings examined established relationship between lack of exercise and the prevalence of the killer diseases of high blood cholesterol, CHD, hypertension and angina pectoris. It was concluded that a lifestyle of physical fitness plays a role in strengthening body resistance to diseases, lowers the risk of heart attack, rehabilitates victims of CHD and reduces the incidence of liver and other degenerative diseases in addition to reducing physiological stress. It was recommended that in the light of the role exercise plays in the promotion and management of health and stress condition, the executive must pursue an exercise lifestyle and be guided by exercise therapist in the exercise prescription process.

I also studied the prevalence of job stress published in the *African Journal of Microbiological Research* (2010). The study sought to find out the various sources of job stress that teachers are exposed to and to identify the symptoms of job ill-health among teachers with a view of coming up with control measures that will mitigate job stress by teachers as a typical Nigerian workforce. A multi-stage sampling procedure was used to sample subjects from across Lagos, Oyo, Osun, Ogun and Ondo States of Nigeria. A job stress rating questionnaire was developed and administered on the subjects. The inferential statistics of ANOVA was employed to analyse data gathered. Results showed that the source of stress among teachers are varied ranging from colleagues to parents and the teaching environment.73% of teachers experience stress induced headaches, malaria, peptic ulcers and heart problems. It was concluded that the teaching job needs to be ergonomically designed at all levels and that educational ergonomics must be designed and applied in areas of pedagogy, academic curriculum, academic performance assessment, personality development, content design and legislative framework.

In the aspect of sleep as determinant of health and an instrument per excellence in the promotion of a good lifestyle, two studies were carried out and published in the *Journal of Higher Education, Research and Policy Network,* an initiative of the Association of African Universities (AAU; 2010) and *Journal of Sports Science and Medicine* (1991). The former looked at sleep beneficial and performance of exercise and physical activities, the latter looked at the effects of sleep deprivation on Senior Secondary students' performance in a standardised English language test. Applying conventional research tools and reporting approaches, findings in both studies showed that sleep deprivation does not affect the performance of physical activities that employ the big muscles of the body like the gastrocnemius, deltoid, pectoralis major and the rectus abdominis. However, significant effects are suffered by the fine muscles and nerves of the body that control reflex action, eye-hand-coordination and performance in a standardised test requiring intelligence quotients and fast recalls. It was concluded that inadequate sleep blows no wind of any good on anyone as it causes mental tension, poor timing, muscular fatigue and lack of coordination thus increasing accidental falls, miscalculation and poor precision.

One of my papers published by ICHPER-SD journal, in 2006, pinpointed the significance of sporting activities in the promotion and enhancement of quality of life, The paper considered health promotion, physical fitness, educational development, and nation building as indicators of achieving enhanced quality of life. To achieve this however, it was recommended that necessary factors that will make Nigerian

citizens participate in one form of sport or the other should be provided at all levels and space.

A meta-analysis evaluation of risk factors in the homes was undertaken in 2002 among teaching and non-teaching staff in Ilorin Township. It was revealed that risk factors of Accidents occurring in the homes are poison related, dangerous implements related, consumption of defective construction products and defective products, emotion related, mother substitute practice. Specific home accidents that sometimes lead to complications are burns in the event of fire outbreak, poison, fall, gas/ stove explosion, abuse and violence, collapsed building, cuts and wound from dangerous household implements and construction defects. It was recommended that education imperative on home safety, first aid and cardio-pulmonary resuscitation (CPR) should be carried out.

Summary

Over the ages, man has lived in fear and with the knowledge that one day he shall die. Unfortunately, even though he constantly gives thought to how he can prolong his life, he hardly does anything to mitigate the factors that surround him that shortens his life. All the while, he forgets the provision and blueprint of the giver of life and leads his life the best he can under the circumstances he finds himself. To make matters worse, his environment is laced with risk factors in the form of pollution, disease germs, ignorance, poverty, natural hazards and catastrophes that kill man in droves most of which man imposes on himself.

While a number of the risk factors are not fully under the control of man, man has been well placed and empowered to be in control of what he eats, drinks and how well he lives his life to the extent that all things being equal, he can enjoy longevity and avoid the factors that may kill him prematurely. The present lecture discussed the issues of faulty nutrition and diet, drug abuse and misuse, unhealthy life style and ignoring wellness activities as precursors of death when attention is not given to them. The dilemma of the health educator was expressed in the fact that health education is consistently provided in schools while health information is also provided at every opportunity by stakeholders, yet man's adherence to prescriptions, health counselling, health education and motivation has been very poor.

The effects of man's low responses to a holistic approach to health needs affect his individual mental, family, social health and safety and community environmental health. Fortunately, a lot of efforts have been made on how man can live well and how best he can manage his health. Among others, the following were highlighted as

desirable: adequate diet and nutrition, selective and informed use of drugs, fitness, exercise, rest, sleep, relaxation, recreation and personal healthcare and screening.

On a final note, if man will adapt the natural gifts of nature, ill health will not be able to take the better of him. These natural gifts have been transformed into therapies that are efficacious in dispelling stress, morbidity and other forms of untoward health conditions.

Recommendations

Based on my many years as a teacher of health education and based on the outcomes of my researches and writings, I strongly recommend nothing but:

1. Health education, health education and more health education. This recommendation is informed by the outcomes of my studies purposed at finding solutions to the causes of death and dying into which man has plunged himself. Utilising health education will lead to a total reduction in the number of avoidable deaths and ill health. I have always believed and advocated that with the myriads of sources of health information, the following formula will ensure that health education will be extended to all areas - rural and urban:

   Health Information + Health Education = Motivation

   Adopting this approach will ensure that all health givers adopt sound and scientific pedagogic means to deliver health facts and figures in ways that can be understood by clients and beneficiaries.

2. Individuals at home, schools and communities should be motivated to take control of their health through the adoption of health promotion approaches exemplified by drug cessation, exercise rest and sleep, adoption of wholesome nutrition intake and personal health practices and behaviours including vegetarian diet, adoption of water therapy as examples.

3. Bayero University and indeed all Universities in Nigeria should include first aid, safety and health education (coded FASH 111) as a GDS course across faculties. This will equip students with skills that have carry over values into old age and which will prepare them to overcome future health challenges. It will provide a solid foundation for a healthy people knowing fully that a nation comprising healthy citizens is a wealthy nation.

ACKNOWLEDGEMENTS

First and foremost, I thank the almighty God for making the delivery of this inaugural lecture possible. He is the unseen power behind me who has brought me this far in life in spite of all the valleys and shadows of death that I have passed through in life. I register my profound gratitude to the two most important people God used to effect my visibility on Planet Earth. They are my father, late Pa Jacob Oyejide Oyerinde and my mother, late Madam Esther Abike Oyerinde (nee Olumutimi Ile Adanri, Iwaro Ipoti Ekiti). I thank them for bringing me up to be a responsible, God-fearing individual and for giving to me the type of personality that I have. I wish both of you were alive today to be part of the memorable event which is a culmination of your goodwill and wish for me. I am looking forward to that great day when we shall meet to part no more.

I am a professor of Health Education and Promotion today because His Academic Excellence, Professor Abubakar Adamu Rasheed, *mni, MFR, FNAL* offered me appointment on behalf of the Bayero University Council as a Professor in the Department of Physical and Health Education of this great University. I have high regard for him and I am here expressing my deep gratitude. The head of my Department then, Dr, now Professor Sadiq and the present Head of the Department, Dr. Makama Getso were the instruments God used to initiate the needed moves and essential steps to make the appointment possible. I acknowledge these people and others and pray that the almighty God will always breathe into their affairs. I will forever be grateful.

In a very special way, I express gratitude to the sitting Vice-Chancellor of this great University His Academic Excellence, Professor Yahuza Bello, who in all ways and at every opportunity, made my stay in Bayero University memorable and never failed to make me visible and recognised in my little corner at Clifford University where I sojourned in the past two years as Deputy Vice-Chancellor. High regards to you sir, my VC and thanks for believing that I will do BUK proud. Thanks for granting me the permission to go and serve in that capacity. I, at this juncture, acknowledge the Dean of my Faculty, Professor Alli Tijjani Abdullahi. I thank you for your goodwill towards me at every inch of the moment.

There is no way I would not appreciate the immediate past DVC Academics, Professor Sagir A. Abbas and in the same way Professor Garba Dahuwa Azare for their keen interest in my welfare and those of my children. They, in one deft move, solved a mountainous problem that my family faced for upwards of seven years. Thank you indeed and may the almighty continue to expand your coasts. Your stance as pillars of support has not gone unnoticed and no time is better than now to register my family's appreciation. In the same breath, I should not fail to openly appreciate my supervisor for my PhD degree, Professor J. O. Fawole, an erudite scholar and encourager who kept me working when the going was tough. I am also acknowledging my most revered senior and

eminent Professor of Exercise Physiology, Prof. Lasun Emiola. They both have been supportive to me as mentors and teachers. Please, accept this opportunity I am seizing to show gratitude for all you have done for me especially at my down moments.

My colleagues in the department and the Faculty are deeply appreciated. They have all been warm, amiable and supportive to my course and stay in Bayero. At this time, I will like to acknowledge my colleagues in the University of Ilorin. Together, we weathered the storm of the travails of growing a department from a single-programme department and the accompanying bottlenecks to expanding the scope to a multi-disciplinary department with a multiplicity of programmes. In this struggle with me are colleagues like Professors O.O.Obiyemi, A.A. Adesoye, A.T. Talabi, A.O. Onifade, O. Olaitan, R.A. Shehu , O.S. Oniyangi, Tajudeen Ibraheem., Surajudeen Bakinde, Dr (Mrs) Leah E. Dominic not the least in any way, To all staff and my students of Obafemi Awolowo University, Adeyemi College Campus, University of Ilorin and Bayero University, Kano, I say thank you for your love and cooperation. Mr Vice Chancellor sir, I am happy to inform you that five of my students which I mentored and supervised are now professors in their different universities.

At the beginning of my career, the following foundation teachers were there for me: Mr Adejuwon (‘‘Awodi j’eun epe sanra’’ the eagle thrives on the sacrifices prepared by his enemies), Baba Ogundipe my class five class teacher, Madam Juliana Fatade who, by providence, became one of my cherished mothers-in-law, Baba Omolabi, my class four class teacher, Mr Daniel Adegbenjo, Mr Adepoju, to remember those few. I acknowledge them all for their roles in laying a solid foundation of the eagerness and need to learn. Even when it seems that I was not going at their paces, they built in me the spirit of fighting on and sticking all odds.

The roles played by my good teachers at the secondary school level cannot be wished away. Baba E.O Dare, D.T Agboola, G.A. Aina, Pastor (Dr) Kio, Prof. Awoniyi, Messers G.A. Afolabi, G.I. Adeniyi, S.A. Adebua, Pastor (Dr) Caleb Adeogun, Dr H.O. Adesina, Elder J.B Adesuyi, Mrs Esther A. Olajide all are remembered today as those who stood to ensure that myself and colleagues pass through the mill to become the devoted, disciplined and determined individuals that we are today. They built on the foundations they met and made us successes in our different walks of life. I am forever grateful

Among us present here today are some of my university teachers and some are unavoidably absent. They stand out as men who fashioned me into being able to strive to attain to the height of my career. I cannot but acknowledge and mention besides Professors Fawole and Emiola, who I have earlier on mentioned: late Mr I.A. Akioye, Prof J.A. Adedeji, Prof J.O. Oyewusi, Late Dr Abioye, Prof J.T. Ogundari, Prof Bisi Adeniran, Prof Adeyanju and Prof. E.B. Okunrotifa. I drew from their wealth of knowledge and experience to get to where I am today. Thank you so very much.

I appreciate my friends, amongst whom are Mr Wole Noah Kilanko and Mr Kayode Opakunbi and members of my extended family, led in my generation by Mr Sakariyau Olaoye Oyerinde, a retired school principal. I appreciate you all. My Lords spiritual are also appreciated today. They have in prayers and goodwill stood by me and my family. Pastor (Dr) Oyeleke A. Owolabi the current West Nigeria Union President of the Seventh-day Adventist, is deeply appreciated. Pastors Alabi, Elijah Adewumi, Jimoh, and a number of my pastors are highly esteemed at this time. May the Lord bless you indeed and expand your coasts amen.

I sincerely thank my conjugal siblings for being there for me at every inch of the way as we grew up together: Mrs Bolanle Kilanko, Dr Sunday Oyejola Oyerinde, Mrs Oyebisi Olufunke Olaniran of blessed memory, Mrs Dupe Akinbode and Dr Oyewole Olusesan Oyerinde. We shared great solidarity when the going was rough, thorny and cloudy. Thank you for all the love shared and your encouragements. I appreciate you all. Equally, I appreciate all my half/step brothers and sisters; Shola, Oloye, Tundun, Durotoye, Oyelakin and Opeoluwa for the goodwill I have received from you. God bless you all.

Last but not the least, I here express profound gratitude to my family. All through the rough roads, they have been a great source of joy and impetus to my trudging on. During the rough tides of life and the rainy days, they have made my home truly a home and not just a house. We have shared a lot of love and affection together. They are my all in all and my inextricable part. At the beginning of this work while talking about my rise to this present status, I had mentioned them one by one. What remains to be said is that they and my sons and daughters-in-law are source s of strength to me on a daily basis; they are wonderful people who make my life tick.

As for my darling wife, and second half, there seems to be no sufficient words to glowingly appreciate her with. Mr Vice Chancellor sir, ladies and gentlemen, she has been my 5 and 6, my love, my life, the queen in my life and now that I have lost both parents, virtually my everything. To God first and foremost and to her do I dedicate this inaugural lecture.

A LAST LINE

The only sure way to health and probably the only source is God, He gives to all that seeks to be healthy in His own abundance. He supplies power and strength to the troubled soul. He gives fulfilment to all desires. He is the one that we must turn to. All our wisdom, effort and applications are nothing compared to His reserves. With Him, all things are possible.

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LIST OF PROFESSORIAL INAUGURAL LECTURE TO DATE

S/N	NAME	DEPT	DATE	TOPIC
1st	Emmanuel Ajayi Olofin	Geography	4th March, 1992	The Gains and Pains of Putting a Water Lock on the Face of the Drylands of Nigeria
2nd	Garba Dahuwa Azare	Education	24th June, 2000	BASIC CONCERNS: Revitalizing Nigeria's Primary Education in the New Millennium
3rd	Dajuma Abubakar Maiwada	Education	29th July, 2000	Improving Teaching and Learning in University Education with Particular Reference to Bayero University, Kano
4th	Majekodunmi Oladeji Fatope	Chemistry	7th July, 2001	NATURAL PRODUCTS SCIENCE: Looking Back and Looking Forward
5th	Muazu Alhaji Zaria Sani	Nigerian Languages	13th October, 2001	A focus on Some Segmental and Suprasegmental Features in Hausa Phonology
6th	Isa Hashim	Political Sciences	20th March, 2004	Planning and Budget Implementation in the Health Sector
7th	Abdulla Uba Adamu	Education	24th April, 2004	SUNSET AT DAWN, DARKNESS AT NOON: Reconstructing the Mechanisms of Literacy in indigenous Communities
8th	Auwalu Hamisu Yadudu	Private and Commercial Law	5th June, 2004	LAW AS INTERPRETATION: An Exploratory inquiry from Islamic Law Jurisprudence
9th	Mohammed Sanni Abdulkadir	History	31st July, 2004	STRUCTURING, STRUGGLING AND SURVIVING ECONOMIC DEPRESSION IN NORTHERN NIGERIA: The 1930s As Preview of the present
10th	Muhammad Sani Sule	Bio-chemistry	23rd March, 2013	Enzymology and Radiation Biology in the Understanding of Biochemistry

S/N	NAME	DEPT	DATE	TOPIC
11th	Essiet Unanaowo Essiet	Agriculture	22nd May, 2013	AGRICULTURE SUSTAINABILITY IN THE DRYLAND OF NIGERIA: Realities and Prospects
12th	Aliyu Kamal	English Studies	5th March, 2014	The Islamic Novel Style and Structure
13th	Abdu Ahmed Manga	Agriculture	9th April, 2014	Horticulture as a Panacea for Food Insecurity and Unemployment
14th	Sa'idu Muhammad Gusau	Nigerian Languages	26th May, 2014	Wakar Baka Bahaushiya (The Hausa Oral Songs)
15th	Abdulla Uba Adamu	Mass Comm-unication	9th July, 2014	IMPERIALISM FROM BELOW: Media Contra-Flows and Emergence of Metro-Sexual Hausa Visual Culture
16th	Ghaji Abubakar Badawi	Library and Information Sciences	29th July, 2015	THE ROLE OF PUBLIC LIBRARIES AS CENTERS OF INFORMATION TO DISADVANTAGED GROUPS: A 2004-2014study of the information needs of Gada prostitutes in Dawakin Kudu Local Government Area of Kano State, Nigeria.
17th	Mohammed Kabir	Community Medicine	16th September, 2015	Public Health Concern for Chronic Non-Communicable Diseases Surpasses Anxiety Over most Infections
18th	T.I. Oyeyi	Biological Sciences	30th March 2017	Linking Schistosomiasis and Water Resources Development in Kano State Nigeria: Public Health Impact and Mitigation
19th	Abdulrazaq G. Habib	Medicine	27th April, 2017	Medicine, Science and Society – The Global Health Imperative

S/N	NAME	DEPT	DATE	TOPIC
20th	S. Y. Mudi	Chemistry	6th July, 2017	Natural Products: Plants as Potential Sources of Drugs
21st	Sani Ibrahim	Biological Sciences	27th July, 2017	BETWEEN LIFE AND DEATH: Water Quality and Resource Evaluation - The Place of Hydrobiologists
22nd	J. Afolabi Falola	Geography	26th October, 2017	The Poor We Have With Us Always
23rd	U.G. Danbatta	Electrical Engineering	2nd November, 2017	GETTING OUT OF THE WOODS: Diversifying Nigeria's Economy Through the Telecommunications Sector
24th	Adelani W. Tijani	Nursing	23rd November, 2017	Wholesome Alimentation: Path to Radiant Health
25th	Juwayriya Badamasiuy	Private and Commercial Law	21st December, 2017	Uncovering Patriarchy In the Law: Feminist Movement for Re-Interpretation of Islamic Law in Focus.
26 th	Isa Mukhtar	Nigerian Language	25th January, 2018	STYLISTIC THEORIES AND THE LINGUISTICS OF HAUSA PROSE TEXTS: the (SFL) approach.
27th	Ganiyu Sokunbi	Physiotherapy	29th March, 2018	Today it hurts, Tomorrow it works Complimentary & Alternative Therapy for Failed Back Syndrome
28th	Aminu K. Kurfi	Business Administration and Entrepreneurship	19th April, 2018	Microfinance as an Elixir for Poverty Alleviation and Wealth Creation in Nigeria

S/N	**NAME**	**DEPT**	**DATE**	**TOPIC**
29th	Muhammad Sani Khamisu	Arabic	17th May, 2018	Substitution in Arabic Languages Rule and Types
30th	Habu Nuhu Aliyu	Pure and Industrial Chemistry	21st June, 2018	SCHIFF BASES AND THEIR TRANSITION METAL COMPLEXES: The Drug for the Next Generation
31st	Hashim Mohammed Alhassan	Civil Engineering	19th July, 2018	EASING THE BURDEN OF TRAVEL: Can Roadway Capacity Modeling Help?
32nd	Habu Mohammed	Political Science	13th September, 2018	TUG OF WAR OR ECHO IN THE DARK? Civil Society Organizations (CSOs) and the Fight Against Corruption in the Era of Change Mantra in Nigeria
33rd	Bello Idrith Tijjani	Physics	20th September, 2018	NAVIGATING THE DATA LABYRINTH: Application of Some Advanced Statistical Analysis in Atmospheric Physics
34th	Mohammed Ajiya	Electrical Engineering	18th October, 2018	SEAMLESS GLOBAL CONNECTIVITY AT THE SPEED OF LIGHT: Converting Intrinsic Phenomena in Optical Fibers to Capacity Increase.
35th	Abdulrahman Abdul Audu	Pure and Industrial Chemistry	25th October, 2018	MY ACADEMIC VOYAGE IN WATER INTO THE WORLD OF HEAVY METALS
36th	Ibrahim Rakson Muhammad	Animal Science	21st February, 2019	FORAGE AND FODDER PRODUCTION IN NIGERIA: Its Sensitivity in Sustainable Ranching.

S/N	NAME	DEPT	DATE	TOPIC
37th	Muhammad Bashir Ibrahim	Department of Pure and Industrial Chemistry	14th March, 2019	WATER POLLUTION AND THE QUEST FOR ITS REMEDIATION: The Natural Resource Option
38th	Oyerinde Olufemi Oyesegun	Department of Physical and Health Education,	4th April, 2019	MAN DOES NOT DIE BUT KILLS HIMSELF: The Dilemma of the Health Educator and the Moderating Influence of Health Education