HEALTHY ENVIRONMENT: A TOOL FOR HEALTH PROMOTION AND LONGEVITY IN NIGERIA

BY

CHUKUMATI, CHRISTIANA NKANUNYE [1], AND DR. (MRS.) GOLDA EKENEDO [2]

Abstract

This work discusses healthy environment as a tool for promoting health in Nigeria. It revealed that human health is very impacted by unsafe environment such as water, air, food and poor housing. Diseases related to polluted drinking water, air, unsanitary food hygiene and poor housing (household environments) constitute a major burden on the health of the people in developing world. Such diseases include- diarrhoea, cholera, infective hepatitis, typhoid fever, worms infestations, respiratory diseases like asthma, pneumonia, tuberculosis, cross infection amongst others. These contaminants could be physical, biological or chemical their prevention is by health educating the public about high standard of personal and environmental hygiene, provision of portable drinking water as well as proper disposal of waste to improve healthful conditions. Also noted is poor housing to be causes of some respiratory diseases as well as causes of antisocial behavior such as rape and substance abuse. In conclusion, healthy environment is crucial to health. Therefore, individuals, communities and Government should play their respective roles to ensure that our environment is healthy for habitation. It is recommended that Government at all levels should adopt the integrated waste management approach through legislation

[1,2] DEPARTMENT OF HUMAN KINETICS AND HEALTH EDUCATION UNIVERSITY OF PORT HARCOURT, PORT HARCOURT, RIVERS STATE.

and implementation. Moral hygiene should be part of school curriculum and non- formal health education should take place at various settings like community gathering, workplace and hospitals to ensure healthy living environment.

Key words: Healthy Environment, Tool, Health Promotion and Longevity.

Introduction

Environment is defined as the aggregate of all the external conditions and influences affecting the life and development of the organism (Webster's new collegiate dictionary). However, Basavanthappa (2004) assert that environment is all the external, physical and biological factors that directly influence the survival, growth, development and reproduction of organisms. There is dynamic relationship between man and his total environment. Man alters his natural environment in the course of production and search for living. The alteration of the environment brings both positive and negative (pollution) effect on human. These negative effects threaten the lives of the people and cause irreparable damage to the earth. No one wants to die, despite the age one has attained, as well as the stress or challenges which every individual face in the society today.

Everyone wants to live a healthy and long life, but it is not easy to live a healthy life without a healthy environment. A healthy environment is a great asset to healthy. A healthy environment is a clean, beautiful and hazard free factor(s) that affect the health of an individual. In order to achieve a healthy environment, environmental sanitation which is known today as environmental health is very important. WHO (2000) defined environmental sanitation as the control of all those factors in a man's physical environment which exercise or may exercise a deleterious effect on his physical development, health and survival.

Environmental health focuses on preventing infectious diseases, spread by water, waste, food, rodents and insects. Life is meaningless without

food, water, air and dwelling place. And as such the cleanliness of this physical environment (water, food, air and dwelling place) is very essential to health. According to Roth & Insel (2008), to reach a state of complete physical, mental and social well-being, an individual must be able to identify and to realize aspirations to sanctify needs and to change or cope with the environment. Having known that health promotion is the process of enabling people to increase control over and to improve their health (WHO 1986). Good health can only be achieved through a healthy environment. Cleanliness of physical environment such as air, water, food and dwelling place is essential for healthy living.

Alakija (2000) affirms the realization that health status of people cannot be improved without concurrently improving their environmental and social conditions. Poor water sanitation and environmental pollution are major causes of disease. A safe water supply and sanitary disposal of liquid, solid and gaseous wastes are vital to health. Human pollute the environment while disposing large scale of industrial and domestic waste using inappropriate methods.

Promoting Health and Longevity through Water Sanitation.

Water is human right and is a basic necessity of life without which, it will be impossible for terrestrial animals and vegetables to exist. Santra (2005) stated that water is a wonderful chemical medium, and is one of the most important constituents of life support system. In the same vein, Garg and Garge (2008) expressed that water is a renewable resource, but at the same time, it is infinite in quantity. The human body is made up of 70% of water and as such, needs water to replace loss fluids from the tissues, excrete waste products, water aids digestion, maintains fluidity of blood, lymph and maintains temperature as well. Water is used in various ways namely domestic, agriculture and industry. However, warner opined that the disease associated with contaminated water, remains a serious public health problem for most of the world population. He further stated that shortage of water poses a serious constraint to municipal and community

development, food production as well as growth of industry.

Portable water is a precious commodity in life. Basavanthappa (2010) stated that a safe water supply is more important to health of the people than any drug or thing. Water is required in our homes for drinking, washing, personal cleanliness, flushing latrine. Portable water must be free from chemical and biological contamination must be tasteless, colourless and odourless (WHO 1993). There are various sources of water supply such as streams, rivers, lakes. Ponds, well, springs and rainfall collected off roofs. These sources of water are easily polluted from human, industrial and agricultural wastes. In developing countries like Nigeria, water from the same source like river, stream, ponds, lakes are used for both drinking, bathing, washing, defecates as well as recreation (swimming) without any demarcation. This give rise to high pollution and the end result is water borne diseases.

Wells and springs are sources of ground water which is clean and serve the same purpose with surface though it is cleaner than surface water, but can also get polluted by sewage as well as dissolved calcium and magnesium salts. This can be controlled by putting away pit latrine, septic tank from the wells. A good well (sanitary well) should have cover, fenced, with a permanent bucket to draw water from it and not to be sited closer to pit laterite and septic tanks. Rain water is water harvested off buildings. Before now, rain water is one of the cleanest water if it is collected directly, but gets polluted if the roof is dirt and also collected with dirty container either pots tanks, drums, pails and basins. Today, due the atmospheric pollution from industries, the cleanliness of rain water is questioned.

Sources of water pollution

Various physical, chemical and biological agents render many water sources less wholesome for human consumption. Water pollution occurs when undesirable substance (foreign matter) or condition degrades a body of water to such a degree that the water does not meet specific purpose (Achalu & Achalu 2004). In the same

vein Bassavanthappa (2011) asserted that water pollution is the natural qualities of water substances which can pollute water and pose health hazards (water borne disease).

Polluted water poses threat to survivability of the life systems on diverse water bodies. Pollutants get surface water contaminated via various routes. Amongst the routes as recognized by Santra (2005) include: sewage outfalls, outfalls from commercial premises, outfall of nuclear power stations, run-off from land, from the air, dumping at sea, release from oil rigs and terminals and shipwrecks. In the same vein Bassavanthappa (2010) identified some of the substances (pollutants) to include virus, bacteria, waste, and heat reaching activity, industrial pollutants, oil spills and underground pollution from dumping. For oil producing communities in the country, what should be a blessing has turned to bitter taste in the mouth as they suffer the devastating short and long term effects of oil spill which affects aquatic life and sources of water for drinking and domestic use.

Major water pollutant include biological and chemical.

Biological: The pathogens (virus, bacteria, protozoa and parasitic worms) are diseases producing agents found in the faces of infected persons which are more prevalent in communities with poor sanitary conditions.

Chemical: these are pollutants from chemical substance such as excess soluble salts e.g. sulphates, chloride of calcium and magnesium as well as deficiency of fluorine and iodine.

Water borne diseases

Pollutants	Diseases
Virus	infective hepatitis, poliomyelitis
Bacteria	dysentery, typhoid, paratyphoid and cholera
Protozoa	tape worms around warms, guinea worm and trematodes.
Soluble salts like sulphates	diarrhoea

Other disease conditions include, skin disease, malaria as a result of mosquitoes breeding in stagnant water and ponds. Deficiency of flourine

causes dental caries and goiter is as a result on deficiency of iodine. While that of chlorides of calcium and magnesium cause digestive upsets.

Prevention and control of environmental sanitation

This can be achieved through health educating people need to improve water sanitation as well a supply of portable water. Prevention and control of waterborne diseases start with proper treatment of water and food before consumption since most of the water borne diseases are transmitted through faecal-oral route. Portable water must Pit latrine and septic bank should be sited far away from sanitary well. The sanitary well should be fenced, covered and only one bucket should be used for collecting water. There should be demarcation between the water used for bathing, washing, swimming from that of drinking i.e. water from the stream, ponds, river and lakes. Encourage the treatment of drinking water by boiling to kill the microbes (pathogens), sedimentation by removing the impurity. This also helps to remove taste, odour and pathogens that will cause water borne diseases to human. Rain water should be collected and stored in a clean covered container. Excrete; waste products should be properly disposed to avoid contaminating the water. Oil exploration and producing companies and Government should adopt global security and safety in controlling oil spills.

Promoting Health and Longevity through Food safety and hygiene

Lucas and Gilles (2003) asserted that food safety is the absence of adverse effects following food consumption. While food borne illness are disease conditions, which are either infectious usually either infectious or toxic in nature, caused by agents that are enter the body through the ingestion of food (WHO 2000). Food safety is said to occur when after food consumption, there is no adverse effect rather the body is nourished after consumption. Food infection can occur biologically or chemically. Biologically food contamination occurs when there is improper handling of food from time of harvesting to time of consumption. While chemical contamination when pesticides are used for planting, metals

such as lead and mercury are toxic therefore can cause hazard to the food (WHO 2000). Food hygiene is the steps taken to prevent contamination of the food by keeping it clean. To maintain cleanliness and prevent the occurrence of the hazard associated with consumption of unhygienic food, it is important to observe the following hints,

1. Hands must be properly washed before/after handling food as well as after using the toilet.
2. Before eating any fruits and vegetable, they should be properly washed with clean water.
3. Cover all food stuffs to keep away flies, ants and cockroaches.
4. Food should be well cooked before consumption. Unused or left over food should be properly discarded to avoid infestation of flies, rodents and other pests.
5. Raw or uncooked food should be properly preserved.

Food borne diseases

This occurs mainly due to mishandling of food. Some of the diseases associated with food hazards includes: Cholera, parasitic infection like amoebiasis, liver fluke, tape worm, and Echerichia coli (E.coli) infestation. An estimated 94% of the diarrhoeal disease is attributed to environment, and associated with risk factors such as unsafe drinking water and sanitation and hygiene (Pruss-Ustun and Corvalan 2006).

Prevention and control food poison

These pathogens travel through persons handling food hence extreme care and hygiene should be observed. Those looking after people infected with hepatitis, cholera and typhoid should maintain a very high level of hygiene as these diseases are contagious and affects a larger population in the tropical areas. If possible put on apron while cooking and cover head/hair. People with septic wound e.g. whitlow, carbuncle, and boil wound should not prepare food. While those with cuts and abrasions on fingers should be covered with water proof dressing (Omodu 2004). According to Pruss-Ustun and Corvalan (2005) large proportion of diarrhoeal disease is caused by

foeacal-oral pathogens. If sanitation or related hygiene is poor, example when hand washing facilities are inadequate, or when faeces are dispoaed of improperly, human excreta may contaminate hands, which can then contaminate food or other humans (person to person transmission).

Promoting health and longevity through air pollution control

Air is one of the most important requirements for the continuance of life and most vital aspect of the natural resources. Like water, pure air is very essential in the maintenance of our health. According to Briggs (2007), a person can live without food for weeks, and water for days, but can live without air only a few minutes. Without air there is no life. Oxygen is taken into the body through air. Therefore, clean air is necessary for our health and longevity. Air pollution is the air that contains one or more chemicals or substances in high concentrations as to harm humans, animals, plants or other materials (Achalu & Achalu 2004). When there is contamination of the air or the air becomes impure that it is detrimental to health it is said that the air is polluted.

Sources of air pollution

Man pollutes the air as a result of his activities. These activities include"- industrial processes such as in fertilizer, paper, cement, steel and insecticides factories as well as oil refineries. Health hazards of environmental pollution explained that smoke emitting from chimneys and vehicles both add to air pollution as well as deforestation to accommodate the increasing population on earth. During burning of coal, oil and fuels both domestic and factory activities, sulphur dioxides, dust and smoke is added to the air. Automobiles release carbon monoxides, nitrogen, oxides and lead into the air from their exhausts pipes. (Man gets allergic reaction through coming in contact with some plants, yeasts, moulds and animal produce). Gas flaring is another serious of air pollution that deserves serious and immediate attention. Man adds heat, humidity; micro-organisms add odours to the air around him from different physiological functions of the body. During the household and

industrial activities air pollutions such as noise, radiation and smoke are introduced into the air and these are detrimental to human health.

Prevention and control of air pollution

People should be educated on the need to site industries away from living homes to reduce toxic chemicals or fumes released to the environment and are detrimental to human health. There should be proper waste disposal to reduce air pollution. Specially, burning of refuse and open dumping should be discouraged and stopped. Technologies that produce fewer amounts of pollutants should be adopted. Cross ventilation is very important to increase the oxygen in the rooms, offices and industrial workshops reduce the concentration of pollutants in such places. Discourage bush burning or burning of waste around the residential areas. Smoking of cigarette in the rooms and public places should be discouraged. Enacting suitable laws aimed at preventing pollution (WHO 1969), is a right step in pollution control and prevention, hence, advocacy by pressure groups would ensure that legislators work towards achieving this.

Dangers of air pollution on Health

Air pollution affects plants, animals and humans. To the plants, there is damage to trees, fruits, vegetables and flowers by collapsing the leaves. Effect on animal- the animals are infected through fluorides which causes abnormal calcification of bones and teeth (fluorosis).

Effect on man could be long term or short term. In short term effect, these eg allergic reaction, irritation of the nose, eyes, throat, upper respiratory infections and dermatitis. While in long term, the condition is chronic e.g. chronic bronchitis, pneumoconiosis and cancer of the lungs.

Promoting Health and Longevity through Housing

Housing as an environment, means the building or structure in which we live, work, rest and play. They should be so constructed and laid out as to promote physical, mental and social well-being (Gupta and Mahajan 2005). A good

house should be free of any hazard that will endanger the health of man. It should be built on a firm and dry soil. There should be enough space both inside and outside to provide good light and ventilation to prevent respiratory infection which is common with over crowded house. The house should face the sum and have access to open air with green plants around the house to make the environment pleasant and healthier. Houses should be built away from offensive areas as well as where there is excess noise.

The house should be able to provide privacy against the attack of enemies. House must meet up with the physical, psychological and social needs of man. Houses should not be erected in a flooded or swampy area. There should be good drainage around the house. The house must contain clean water both in the kitchen, bathroom and toilets to serve its normal function (drinking, washing, bathing, flushing toilets). A comfortable house will promote health of the people living in it and reduce diseases.

Effects of Poor Housing on Health

Poor housing condition have physical, mental and social effect on the health of the man. Overcrowding, poor ventilation as well as unhygienic housing is one of the major causes of respiratory infections like tuberculosis, whooping cough and even measles and chicken pox. Overcrowding also has some social unrest thereby giving rise to drug abuse, crimes, juvenile delinquency (in children) and other antisocial acts. Home accidents are common due to poor lighting, poor housekeep.

Promoting Health and Longevity through appropriate Waste Disposal

Wastes are those unwanted, unusual discarded substances at a particular time/place which results from man's activities. In many developing countries including Nigeria, many health problems result from improper disposal of human excreta, urine, domestic and industrial wastes. However, Obijiofor (2009) attested that our city streets, our backyards, our living rooms, our hospitals, our restaurants and our so-called five stars

hotels are marked with pyramids of filth, including industrial effluents.

Most communities have turned to garbage areas due to indiscriminate dumping of waste like industrial waste, household and commercial waste like food substance, plastics, waste paper, and polythene bags amongst others. Water ways are usually polluted and still some of these water ways are sources of water for consumptions. Improper waste disposal causes blockage of drains giving rise to flood. It can also contaminate both food and water leading to food and water borne diseases or ill health. Proper waste disposable prevents physical hazards like accidents resulting to wound, sprain, strain and fracture. It also provide healthy environment due to absence of vermin like rats, rabbit, housefly, mosquitoes and others.

Effects of Improper Waste Disposal on Health.

Proper waste disposal is essential in promotion of health. Different communities have different ways of disposing waste. The disposal of waste depends on the waste generated. In Nigeria, waste disposal has always been a challenge. There are various harmful agents found in waste including biological and chemical agents. Effects of biological agents are usually rapid while that of chemical agents are slower (long term).

The hazard effects of biological agent as it pollutes water and food include cholera, typhoid, dysentery, acute infective hepatitis, poliomyelitis, hookworms. Dust helps to spread air borne diseases like tuberculosis and measles (Bassavanthappa 2010). Ascariasis, trichiriasis and hookworm diseases are all transmitted via soil and other media that are contaminated with excreta containing infected eggs (larvae). Transmission occurs when infective eggs are ingested and in the case of hookworm infestation, also when larvae penetrate the skin (Beneson 1995 in Pruss-Ustun and Corvan 2006). Mosquitoes transmit insect borne diseases like malaria.

Refuse or solid waste

Organic waste can be composted in the landfills as this will yield manure while inorganic waste can be recycled.

Open dumping of waste on vacant land should be discouraged not only that it is unhygienic, it also encourage bread of mosquitoes, flies and other insects. The practice of sanitary filling or controlled tipping (burying of refuse in a designated area) should be supported. Burning of refuse should not be encouraged as it pollutes the air. Composition is a biological method of converting refuse to a stable human-like usable material through the action of microorganisms (Omodu, 2004). It is one of the best methods of disposing refuse.

Conclusion

This paper has identified that unhealthy environment can result from contaminated water, food, air, dwelling place as well as improper waste management. The effect of unhealthy environment is ill-health and death. Air pollution is another cause of unhealthy environment as such the air should be free from pollution to prevent air borne diseases and to promote, health. Housing, either residential, workplace, office, school environment should be such that can promote the health of the inhabitants by not being over crowded, with good light, water, drainage, ventilation as well as normal temperature that is good for relaxation.

Proper waste management should be encouraged as this is the one of the major pollutant that threatens life. When adequate measures are applied to bring about healthy environment such as cleanliness, prevention and control of air and water pollution, proper and adequate housing and proper waste management, health is promoted and life is prolonged. It therefore becomes an individuals and Government responsibility to play their respective roles in bringing about a healthy environment in the country for the purpose of promoting the health and life of the citizens. A healthy nation is a wealthy nation.

Recommendations

1. Nigerian Government at all levels should adopt the integrated waste management approach through legislation and implementation in order to achieve a healthy environment for all.

2. Environmental health education should be part of the school curriculum at all levels of education so that the citizens can start from childhood and all through life to understand the importance of a healthy environment and how to achieve it.

3. Non-formal health education should take place at various settings like the community gatherings, workplace and hospitals to promote healthy environment so that even those outside school system can help to understand and make useful contribution towards building a healthy environment in the country.

References

Achalu, O.E & Achalu E.L (2004) Environmental Health and pollution control. Lagos, Nigeria - Simarch publisher.

Basavanthappa, B.T. (2010) Community Health Nursing. New Delhi, Jaypee Brothers.

Briggs, IA. (2007) Issues in Health Education. Port Harcourt: Timi Hyacinth

Garg, S. K & Garg, R. (2008) Environmental Studies and New Technologies. Naisarak Delhi: Khanna publisher.

Gupta, M.C. and Mahajan, B.K. (2005) Textbook of preventive and social medicine. New Delhi-" Jaypee Brothers.

Lucas, A.O. and Gilles, H.M. (2003) Short Textbook of Public Health Medicine for the Tropics. Chennai India; Charon Tee PVT.

Moronkola, O.A. (2003) Essays on Issues in Health, Ibadan- Royal People.

Moronkola, O.A. & Okanlawon, F.A. (2003) Fundamental of Public and Community Health Education. Ibadan- Royal People.

National Heart, Lung and Blood Institute (2005) COPD: Bethesda, MD: http-/www. nhlbi.nih.gov/health*dci/disease /copd-causes.html. accessed March, 2005.

Obijiofor, L. (2009) Waste management as a source of wealth. Vanguard newspaper March 6.

Omodu, S.W. (2004) Essentials of Environmental Health. Port Harcourt, Palmtex.

Pruss-ustun, A. & Corvalan, C. (2006) Preventing Disease through Healthy environments. Towards an estimate of the environmental burden of disease. World Health Organization.

Santra, S.C. (2005) Environmental science. Chintamoni Das lane, Kolkata 700009. New central book agency (p) 81.

Warner, D.B. Drinking Water Supply and Environmental, Sanitation for Health. Water Sanitation and Health: World Health Organization 1211 Geneva Switzerland.

World Health Organization (WHO 2002) World Health Report 2002-reducing Risks, promoting healthy life: Geneva, WHO (http://www.who.int/wfar/2002/ accessed March2005.

World Health Organization (WHO 2000), Food safety and food borne illness. Fact sheet No. 237, WHO, Geneva.

World Health Organization WHO: Measurement of Air Pollutants, Geneva, 1969. www.girlshealth gov>homes>the environment and your health >water.