HEALTH EDUCATION: A VERITABLE TOOL IN THE INTEGRATED MANAGEMENT OF COMMUNICABLE AND THE EMERGING NON-COMMUNICABLE DISEASES IN RESOURCE POOR NATIONS

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Abstract
The management of communicable diseases (CDs) is reasonably well established in resource poor nations; whereas the management of the emerging non-communicable diseases (NCDs) remains incompletely understood. NCDs such as cardiovascular disease, cancer, diabetes, mental illness, neurodegenerative disease (e.g. Alzheimer’s,) are major causes of disease burden in these regions. These diseases are expensive to treat and have given rise to a high morbidity and mortality (WHO, 2015).

Introduction
Communicable diseases (CDs) and Non-Communicable diseases (NCDs) are of great concern globally. For decades, some communicable diseases such as typhoid, tuberculosis, HIV and parasitic disease such as malaria, have been the predominant cause of ill health in the developing countries. Therefore, resource poor nations have paid more attention to the CDs than NCDs. Recently, there are many emerging NCDS which have come to complicate the health of individuals, and even cut their lives short and are often known as “silent killers“. Such emerging NCDs include cardiovascular diseases (cerebrovascular disease (stroke) and Ischaemic heart disease (angina)); Diabetics, cancer of various sites, arthritis, cognitive disorders, obesity etc. (Boutayeb and Boutayeb, 2005; Centre for Disease Control and prevention (CDC), 2012; World Health Organization (WHO), 2012). In a study reported by the World Health Organization (WHO), (2012), it was revealed that of the 57 million global
deaths in 36 million, or 63%, were due to non-communicable diseases (NCDs), principally cardiovascular diseases, diabetes, cancers and chronic respiratory diseases. Nearly 80% of these deaths occur in low- and middle-income countries.

Deaths from NCDs are projected to continue to rise worldwide, with the greatest increases expected in low- and middle-income regions (WHO, 2015). Most of these diseases are very expensive to treat. Medical treatment can run from thousands of naira to millions (in any currency used by the affected person or country). It has been observed that in the developing countries (Poor resource countries) more emphasis and attention have been given to drug treatment of diseases than to preventive treatment. The NCDs on the other hand, are having crippling and fatal effects in many communities far beyond imagination. This is essentially an awareness raising exercise. This study is aimed at bringing to limelight the role of health education as one of the tools of bringing about integrated management of these diseases in order to prolong onset and reduce the debilitating effect associated with them.

*Concept of Health Education and Disease Management*

Health Education (HE) according to the World Health Organization-WHO (2015), is any combination of learning experiences designed to help individuals and communities improve their health by increasing their knowledge or influencing their attitudes. Thus, it can help to curb the outbreak of CDs and also prevent the onset of NCDs. It can also be defined as the principle by which individuals and groups of people learn to behave in a manner conducive to the promotion, maintenance, or restoration of health (Marucs 2015).

Cure or healing may be fully achieved if it is a CD, but may not be fully achieved when chronicity has occurred as is the case with most NCDs and life is cut short. Health education thus stands as a bridge that integrates the management of the co-existing traditional communicable diseases and the emerging and potentially more serious non-communicable diseases. Health education emphasizes health promotion
and disease prevention; it is a cheap, effective and affordable means of keeping healthy. It also enhances early detection and canvasses early reporting of disease which improves management and delays avoidable complications or death. Unlike the affluent developed nations, which tend to be preoccupied with the NCDs, the resource poor nations are in contrast concerned with both (CDs and NCDs), thus bearing a higher burden with limited resources. Given the limited resources in poor nations, this is currently a major cause of concern for health policy formulators and administrators of the health care delivery system. When faced with this kind of dilemma, health education as a preventive healthcare is a cheaper way to ensure a relative good health among individuals.

Disease Prevention healthcare (prophylaxis) is a combination of measures taken for disease prevention, to nip it before the onset and not allowing it to degenerate into disease treatment (Huang, Duggan, Harman 2008; Anetor, Ogundele and Oyewole 2012). Studies reveal that health (physical and mental) states as well as disease and disability, are affected by environmental factors like disease agents, lifestyle choices and genetic dispositions. Since health, disease, and disability are dynamic processes which begin before individuals realize they are affected, preventive care becomes a compulsory measure. Disease prevention relies on anticipatory actions that can be categorized as primary, secondary, and tertiary prevention.

These levels of preventive actions are of absolute importance and cannot be over emphasized considering the prevalence and deaths arising from chronic diseases. Therefore, concerted efforts should be made to promote healthy habits from birth and should be sustained to old age (golden years of life) (Centre for Disease Control (CDC) 2015 & Sickle 2015). Healthy living choices play a large part in the reduction of chronic disease. Some of the Lifestyle choices reported in many studies to have hazardous effects and are also predisposing factors for many
chronic diseases include: poor dietary habits, lack of exercise, obesity, tobacco and alcohol.

Chronic illnesses like cancer, hypertension, diabetes manifest relatively early in life in the presence of these lifestyle choices (CDC 2015). Some studies revealed that health educating the community to adopt a healthier lifestyle requires a community wide approach and should be spearheaded through the community health department and carried through to local community schools, and government agencies to ensure not only healthy, safe children and adults, but also a healthier environment for all to reside (O’Loughlin, Masson, Déry, Fagnan, 1999 & Sickle 2015). World Cancer report (2014) showed that more than 30% of cancer deaths could be prevented by modifying or avoiding key risk factors, including:

- tobacco use
- being overweight or obese
- unhealthy diet
- lack of physical activity
- alcohol use
- sexually transmitted HPV-infection
- infection by HBV
- ionizing and non-ionizing radiation
- urban air pollution
- In-door smoke from household use of solid fuels.

Although, most of the factors listed above are for cancer, they can also be traced to other NCDs. Giving correct information to make informed decision that will help individuals to avoid the predisposing factors of these chronic diseases especially NCDs will be achieved through Health Education (HE). Health education can be used in integrated management to modify most of the risk factors of many diseases as well as prevent early onset of many chronic diseases by nipping on bud the basic major risk factors of CDs and NCDs.
According to Lopez, Mathers, Ezzati, Jamison, Murray (2001), the leading causes of preventable death worldwide of the year 2001 were attributed to the following:

Table 1: Leading causes of preventable deaths worldwide for the year 2001

<table>
<thead>
<tr>
<th>Cause</th>
<th>Deaths caused (millions per year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypertension</td>
<td>7.8</td>
</tr>
<tr>
<td>Smoking</td>
<td>5.0</td>
</tr>
<tr>
<td>High cholesterol</td>
<td>3.9</td>
</tr>
<tr>
<td>Malnutrition</td>
<td>3.8</td>
</tr>
<tr>
<td>Sexually transmitted infections</td>
<td>3.0</td>
</tr>
<tr>
<td>Poor diet</td>
<td>2.8</td>
</tr>
<tr>
<td>Overweight and obesity</td>
<td>2.5</td>
</tr>
<tr>
<td>Physical inactivity</td>
<td>2.0</td>
</tr>
<tr>
<td>Alcohol</td>
<td>1.9</td>
</tr>
<tr>
<td>Indoor air pollution from solid fuels</td>
<td>1.8</td>
</tr>
<tr>
<td>Unsafe water and poor sanitation</td>
<td>1.6</td>
</tr>
</tbody>
</table>

Source: Lopez et al (2001)

Since most of these diseases are preventable, Health education is pivotal in their prevention.

**Materials and Methods**

Attempt was made to identify many publications in standard outlets using the keywords of modifiable basic factors predisposing to diseases like diet, physical activity and obesity, tobacco, alcohol and environmental pollution in PubMed, ISI, Tox base environmental digest, related base journals, some standard textbooks as well as the observation of the researcher between 1999 and 2016.
Discussion

Diet

An unhealthy diet is one of the key risk factors for NCDs. The World Cancer Report (2014) revealed that diet is one of the three factors (others being smoking, infections) that can prevent one third of cancers and another third cured. Also, the report revealed that alarming rate of cancer spread will be prevented if these factors are taken care of; thirty to forty percent of cancer cases have been linked to dietary choices. Cooper (2007) reported that between 2000 and 2004 mortality due to cancer was documented to be 99,249 and 156,290 in Egypt and South Africa, respectively. About 70% of all cancer deaths in 2008 occurred in low and middle-income countries World Cancer Report (2014). HE will use nutrition counseling and health talks through sound pedagogy to disseminate information on the proper and adequate quantity of diet; including fruit and vegetable intake which will eliminate oxidative stress that has been implicated in numerous communicable and non-communicable diseases. Adequate intake of fruit and vegetable will increase micronutrients and antioxidants which will suppress the effect of free radicals and limit cancer onset and spread as well as building immunity to resist CDs. Eating food rich in micronutrients- fruit and vegetable at least five times a day, eating less red meat, and generally consuming more plant source of protein will also help to provide needed antioxidants to counteract the effect of free radicals thereby inhibiting oxidative stress and promote genome health and also maintain the right body weight (BMI) (Huang, Duggan, Harman 2008 & Olaitan, Oyerinde, Dominic, Mohammed, Ajibua 2013). Currently HE is used for consumer awareness and education campaigns; and environmental changes in reducing the negative impacts of salt and encourage lower consumption in order to curb NCDs especially hypertension, cardiovascular diseases and stomach cancer (Anetor, Ogundele, Oyewole, 2012).
Physical Activity and Obesity

Physical inactivity is an important cause of numerous diseases and directly linked to obesity. Many studies have documented that lack of physical activity and unhealthy eating is also a contributing factor to cancer, diabetes, and cardiovascular disease (Alemu, Duidtyoru, 2000 and Anetor, Ogundele, Oyewole, 2012). These authors pointed out that HE is very essential to provide the necessary health information to individuals that will assist in promoting essential lifestyle activity. According to them, regular and consistent exercises for at least thirty minutes every day will curb overweight and maintain fitness which enhances a healthy lifestyle. Weight loss is thought to be key to improving all aspects of metabolic syndrome (Alemu, Duidtyoru 2000). Research studies have suggested a number of benefits of diets rich in vegetables and fruit in helping individuals reach and achieve healthy weights because of its low calories (Kumanyika, Jeffery, Morabia, Ritenbaugh, Antipatis.2002; Ledikwe, Blanck, Khan, Serdula, Seymour, Tohill, Rolls, 2006 & US department of Health and Human services 2015). Health promoting information through HE assist individuals to adopt exercise and diet lifestyle thus further bringing to the fore, its importance as a tool towards an integrated management and prevention of CDS and NCDS.

Tobacco Use

Tobacco smoking remains the leading cause of preventable death in many parts of the world. Tobacco is the most important risk factor for cancer causing around 20% of global cancer deaths and around 70% of global lung cancer deaths (WHO 2012). It is also an important risk factor for many respiratory diseases because of the presence of nicotine. For example, health education is needed among the smoking population on the need to stop every day smoking and emphasis placed on the negative effects of smoking. Health education plays a prominent role in the caessation of smoking Olaitan (2006) & Eisenberg, Blum, Filion, Rinfret,

**Alcohol Consumption**
Alcohol-related education can be considered an effective way to increase awareness of alcohol-related health problems. Alcohol is to be taken with moderation as it is also a major risk factor in most diseases (liver cirrhosis, cancer). Alcohol-education is a popular and much used approach to reducing the potential harm from alcohol consumption and particular drinking patterns. Providing information and teaching skills represents a crucial component of an integrated approach to promoting responsible alcohol consumption and enabling individuals to make informed choices about their drinking (Agostinelli, Grube.2002 & Puddey, Beilin 2006). This is also a fundamental role of health education.

**Environmental pollution and hygiene**
Health Education teaches that environmental sanitation should be upheld by every individual to prevent inhaling all sorts of toxins/pollutants (fumes) which give rise to many CDs and NCDs. This should include proper refuse and waste disposal. The waste generated in local communities is usually of a mixed type consisting of domestic waste and waste from small scale industrial activities.
Among these wastes are toxic metals, lead (Pb), cadmium (Cd), arsenic (As), mercury (Hg), halogenated organic compounds, plastics, remnants of paints that are themselves mixtures of hazardous substances, hydrocarbons and petroleum product contaminated devices. Therefore, there is the urgent need to create an awareness of the harmful health effect of toxic wastes especially in developing countries (Anetor, 2016). In preventing pollution, over-crowding should also be avoided; while up-holding the hygiene of hand washing to prevent infectious diseases (CDC, 2015). If the continuous information on the hazardous effect of environmental pollution is not emphasized to the general public there will be no end to the upsurge of CDs and NCDs; again this is in the jurisdiction of health education.
In conclusion, this study has reviewed the role of HE in diet, physical activity, tobacco use, alcohol consumption, environmental pollution and hygiene. HE has been identified to be able to provide nearly all the information needed to make informed decisions to live a healthy life if properly utilized. Therefore, it can be a veritable tool needed in the management of diseases by nipping in the bud the risk factors of nearly all CDs and NCDs by preventing their early onset and ameliorate undesirable outcome.

References


