

Prevention and Control of Non-Communicable Diseases: A Call for Joint Action

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Abstract:

Non-communicable disease is the chronic condition that does not result from an (acute) infectious process and hence are non-transmissible or not communicable. The rise of non-communicable diseases among young adults has substantially increased over the past ten years. Therefore, the study examined prevention and control of non-communicable diseases: a call for joint action. Specifically, the study examined risk factors of non-communicable diseases, prevention of non-communicable diseases, and control of non-communicable diseases. It was revealed that many people indulge in practices which make them prone to NCDs. Why people indulge in such behaviour is not clear and has been a focus of criticism. It was confirmed by previous researchers that in order to prevent NCDs a change in health practice is needed. For practice to be modified there might be the need for the influence of another individual on the one whose behaviour is to be modified.

Keywords: Prevention, Control, Non-Communicable Diseases,

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Accepted 25 December 2021
Published 30 January 2022
DOI: 10.5281/zenodo.5948813



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Introduction

The prevalence of Non-Communicable Diseases is at an all-time high rate. Yarahmadi, et al (2013) reported that more than 35 million people died from NCDs each year worldwide representing nearly two thirds of the world's deaths with most of these deaths (over 80%) in low and middle income countries and occur before the age of 60. While World Health Organisation (2018) revealed that, of 56.9 million global deaths in 2016, 40.5 million, or 71%, were due to NCDs. The leading causes of NCD deaths in 2016 were cardiovascular diseases (17.9 million deaths, or 44% of all NCD deaths), cancers (9.0 million, or 22% of all NCD deaths), respiratory diseases, including asthma and chronic obstructive pulmonary disease (3.8 million of 9% of all NCD deaths), and Diabetes caused another 1.6 million deaths. These four groups of diseases account for over 80% of all premature NCD deaths.

In Africa, the prevalence of NCDs is rising rapidly and is projected to cause almost three-quarters as many deaths as communicable, maternal, perinatal, and nutritional diseases by 2020, and to exceed them as the most common causes of death by 2030 (WHO 2008). NCDs are now seen to affect the poor of the poorest countries in the world. The impact has been observed to be greatest on the poor countries of sub-Saharan Africa of which Nigeria occupy a significant position. This is because they are often unable to access the education and services required to prevent and treat NCDs. The little health resources are focused on reducing the already overwhelmed burden of communicable diseases and preventable causes of infant and maternal mortality. Thus, it is not an exaggeration to describe the situation in developing countries as an impending disaster for health, for society and most of all for national economies (Margaret, 2011).

Recently, WHO (2018) key facts, reported the following:

1. Non-communicable diseases (NCDs) kill 41 million people each year, equivalent to 71% of all deaths globally.
2. Each year, 15 million people die from a NCD between the ages of 30 and 69 years; over 85% of these "premature" deaths occur in low- and middle-income countries.
3. Cardiovascular diseases account for most NCD deaths, or 17.9 million people annually, followed by cancers (9.0 million), respiratory diseases (3.9million), and diabetes (1.6 million).
4. These 4 groups of diseases account for over 80% of all premature NCD deaths.
5. Tobacco use, physical inactivity, the harmful use of alcohol and unhealthy diets all increase the risk of dying from a NCD.
6. Detection, screening and treatment of NCDs, as well as palliative care, are key components of the response to NCDs.

This shift towards NCDs in developing countries dispelled the popular myth that NCDs afflict mostly the affluent (high income) population. Though developed countries are sharing in the scourge, but the developing countries are facing double burden. The developed and high income countries are experiencing a shift in the health trend from communicable to non-communicable diseases. This double burden of disease could have a devastating impact on a continent that already has significant resource constraints, emphasizing the urgent need for appropriate intervention in the region (Yarahmadi, et al, 2013). In reality, about 80% of the burden of NCDs is already occurring in middle- and low- income countries like Nigeria, where most of the world's population lives (Yarahmadi, et al, 2013, WHO 2012). Millions of people are dying prematurely every year from the world's biggest killers - cancers, cardiovascular diseases, stroke, chronic respiratory disease and diabetes (WHO 2011). Developing countries such as Nigeria is not left out in this huge scourge.

Objectives of the Study

The objective of the study was to examine prevention and control of non-communicable diseases: a call for joint action. Specifically, the study examined:

- i. risk factors of non-communicable diseases;
- ii. prevention of non-communicable diseases; and
- iii. control of non-communicable diseases;

Definition of Terms

The following terms were defined operationally as used in the study:

Non-Communicable Disease: NCD is the chronic condition that does not result from an (acute) infectious process and hence are non-transmissible or not communicable. Examples are cancer, diabetes mellitus, and asthma.

Risk factors: Any attribute, exposure or practice, which increases the likelihood of developing a particular disease or condition such as NCDs.

Modifiable risk factors: Variables or practices that increase an individual's likelihood of developing a disease but can be controlled or changed, such as physical inactivity, unhealthy diet, etc.

Non-modifiable risk factors: Factors that increases an individual's risk of developing a disease which cannot be controlled or changed e.g. age, gender, race, and family history.

Concept of Non-Communicable Diseases

Non-communicable disease is the chronic condition that does not result from an (acute) infectious process and hence are non-transmissible or not communicable. It is a disease that has a prolonged course, that does not resolve spontaneously, and for which a complete cure is rarely achieved. These diseases are the leading causes of death globally, killing more people than all other causes of death combined (WHO, 2013). Non-communicable diseases include coronary heart diseases, diabetes, stroke, peripheral vascular disease, injuries, cancers and Chronic Obstructive Pulmonary Disease (COPD). It is important that these diseases are detected early in order to mitigate their effect on health.

Today, non-communicable diseases, are responsible for more than 75% of deaths worldwide (Centre for Disease Control, 2019). The economic consequences of non-communicable diseases are huge, because of the combined burden of health care costs and lost. These diseases are backed up by many common risk factors (Faisal & Mukhtar, 2013, WHO 2011). The four main types of non-communicable diseases are cardiovascular diseases (like heart attacks and stroke), cancers, chronic respiratory diseases (such as chronic obstructed pulmonary disease and asthma) and diabetes (WHO 2015). The four leading or major NCDs (cardiovascular diseases, cancer, respiratory diseases, and diabetes) share four main behavioral risk factors which include: tobacco use, harmful use of alcohol, unhealthy diet, and physical inactivity. These in turn lead to other key metabolic/physiological changes such as raised blood pressure, overweight/obesity, raised blood glucose, and higher cholesterol levels (WHO, 2011).

In this study, the NCDs will be restricted to hypertension, diabetes, asthma, and cancer. Hypertension, also known as high blood pressure is the persistent blood pressure in the arteries above ninety millimetres of mercury (mmHg) between the heart beats (diastolic) or over 140 millimetres of mercury (mmHg) at the beats (systolic) (Aquilla, 2008). According to Hyman and Parlik (2013), hypertension is the persistent raised levels of blood pressure in which the systolic pressure is above 140 mmHg and diastolic pressure above 90 mmHg. The normal blood pressure is below 120/80 mmHg; blood pressure between 120/80 and 139/89 is called Pre-hypertension, and a pressure of 140/90 or above is considered high (abnormal)



blood pressure. Hypertension is perceived as a systolic blood pressure greater than 140 mmHg and a diastolic blood pressure greater than 90 mmHg among adults. The top number which is the systolic pressure corresponds to the pressure in the arteries as the heart contracts and pumps blood forward into the arteries. The bottom number which is the diastolic pressure represents the pressure in the arteries as the heart relaxes after contraction. The diastolic pressure reflects the lowest pressure to which the arteries are exposed.

Cancer is the uncontrolled growth of abnormal cells anywhere in a body. These abnormal cells are also called tumor, cancer, or malignant cells. These cells can infiltrate normal body tissues. Many cancers and the abnormal cells that compose the cancer tissue are further identified by the name of the tissue that the abnormal cells originated from (example of such cells are, lung cancer, breast cancer, and colon cancer).

Diabetes could be described as a health condition brought about by a prolonged excessive accumulation of sugar in the blood which makes the individual to be unwell as some internal organs of the body are presumed to be affected. Diabetes can be termed a lifestyle disease which could be easily prevented. Considering the cost of treatment and the complications associated with the disease, it is important that the issues of the disease are seriously considered. Diabetes, if not promptly treated, could lead to other disease conditions such as cardiovascular diseases, which pose great threat to productivity and longevity.

Respiratory disease affects the lungs and other parts of the respiratory system. Respiratory diseases may be caused by infection, by smoking tobacco, or by breathing intobacco smoke, radon, asbestos, or other forms of air pollution. Respiratory diseases include asthma, chronic obstructive pulmonary disease (COPD), pulmonary fibrosis, pneumonia, and lung cancer, also called lung disorder and pulmonary disease.

Risk Factors of Non Communicable Diseases

The rise of non-communicable diseases among young adults has substantially increased over the past ten years, especially as the rise of related risk factors continues to reach new heights (Oguntola, 2011). Jackson, et al (2009) defined risk factors as something that increases a person's chances of developing a disease. Important risk factors for high prevalence of diabetes include obesity, central adiposity (increased waist to hip ratio), age, family history of diabetes and lifestyle changes due to urbanization. The ability to reverse or modify a risk factor results in two different subtypes of classification - non-modifiable and modifiable risk factors, otherwise known as host risk factors and reversible risk factors (Hurtado-Ortiz, et al, 2011).

There are risk factors that could aggravate these NCDs. A risk factor could be described as an individual's attribute or exposure that is positively associated with the occurrence of a disease. Risk factors are defined by Lothar, et al (2011) as individual characteristics which affect the person's chances of developing a particular disease or group of diseases within a defined future time period. According to Lucas and Gilles (2003), risk factor is anything that has been identified as increasing an individual's chances of getting a disease or developing a condition. They will be considered to be at risk of developing NCDs, those with habits or characteristics which increase the likelihood of developing NCDs.

Risk factors must be present before the event they predict and the higher the level of a risk factor, the greater the risk of likely having the disease. Risk factors are divided into different types according to Centers for Disease Control and Prevention (2019). These are the non-modifiable risk factors, and modifiable risk factors, and metabolic risk factors which are also related to modifiable risk factors. The non-modifiable risk factors are factors that cannot

be reduced or controlled by intervention. They include age, gender, race and family history or genetics.

The modifiable risk factors are behavioral risk factors that can be reduced or controlled by intervention, these includes physical inactivity or lack of exercise, smoking or tobacco use, alcohol consumption and unhealthy diet and feeding, poor rest or sleep, stress and lack of medical check-up (WHO, 2012). WHO (2011) gave tobacco use, physical inactivity, alcohol, and unhealthy diet as the four main behavioural factors related to NCDs. Other factors that can result based on the modifiable risk factors are raised blood pressure, raised total cholesterol, elevated glucose, overweight and obesity. The modifiable risk factors of NCDs are known to increase the likelihood of certain non-communicable diseases and are related to lifestyle of individuals. The risk factors of tobacco use, harmful use of alcohol, insufficient physical activity, unhealthy diet, raised blood pressure, overweight/obesity, raised cholesterol, raised blood sugar were the main cause of death (Alwan, Maclean & Leanne, 2010).

These diseases result from prolong exposure to one or more risk factors, many of which are associated with personal behaviors and environmental factors. These risk factors associated with NCDs have been identified as the leading global risk factors for morbidity and mortality and they include high blood pressure, tobacco use, physical inactivity, overweight or obesity, high blood glucose levels, and high cholesterol levels (WHO 2013, Venkat, et al, 2010).

The lack of physical activity has emerged as an important risk factor for many chronic diseases, such as coronary heart diseases, hypertension, non-insulin dependent diabetes mellitus (NIDDM), stroke, obesity, and Fibromyalgia. Physical inactivity causes 9% of premature mortality, or more than 5.3 million of the 57 million deaths in 2008. In the African region, about 27.5% of people are physically inactive, and the mortality from physical inactivity for the region was estimated at 6.3%. The prevalence of physical inactivity among Nigerian adults was found to be 31.4% (Oyeyemi, et al, 2013).

An obese or overweight individual have an increased risk of developing various health problems, including cancer, diabetes and heart disease. Even a modest amount of weight loss can help to reduce increased health risks. The best chance of losing weight and keeping the weight off is to be committed to a change in lifestyle. This includes eating a healthy diet and doing some regular physical activity.

Obesity is the medical term for being very overweight. Being obese or overweight means an individual is carrying excess body fat. Being overweight or obese is not just about how a person look, over time, it means that the person has an increased risk of developing various health problems. An adult can find out whether he or she is overweight or obese and whether health may be at risk, by calculating the body mass index (BMI) and measuring waist circumference. Risk for hypertension is two times greater among overweight/obese persons compared to people of normal weight, and three times more than that of underweight persons. Fat distribution is more important risk factor than actual weight as measured by waist-to-hip ratio. Increased waist-to-hip ratio is more associated with hypertension.

The non-modifiable risk factors of NCDs are those factors which cannot be controlled and changed but awareness of these risk factors is important for prevention. Such factors are genetic predisposition, age, and gender. The tendency of developing essential NCDs has long been recognized to run in families (genetic predisposition). Those who have family history of this health problem are more prone to be hypertensive than those who do not, for example, if a person has relatives with high blood pressure, his chances of suffering from the disease is greater. Thatch and Schutz (2014) observed that about 75 per cent of hypertensive patients



have a family history of NCDs. Onuzulike (2006) contributed that if both parents have NCDs, there is every tendency that some of the offspring's may be predisposed to it.

Age is also a non-modifiable risk factor of NCDs. The incidence of NCDs has been said to rise with age. Mandal, et al (2010) supported this by stating that the level of intimacy for blood pressure varies according to age. As the body gets older naturally, it does not retain the amount of elasticity as it used to during early years of life. The arteries become hard and this increases the resistance to blood flow. In addition, morbidity and mortality rates of NCDs increase steadily with advancing age.

Gender is one of the non-modifiable risk factors of NCDs. The frequency of NCDs is greater in men than women up to about the age fifty years, but the reverse is the case at older ages. Although the risk of developing NCDs is higher in older women as compared with older men, the probability of developing a stroke is directly related to the systolic blood pressure regardless of gender and age. Rahman, Douglas and Wright (2014) explained that after menopause, the incidence of NCDs disease due to arteriosclerosis in woman rapidly approaches that in men. Women are seen to have more incidence of NCDs due to the disappearance of female stronger hormone which provides effect against heart disease and high blood pressure.

Theoretical Framework on Prevention and Control

Theory of Reasoned Action

The theoretical framework for this study is based on the theory of reasoned action. Theory of reasoned action (TRA) was propounded by KekeAjzen and Martin Fishbein in 1967 to show how attitude impact on behaviour. It states that a person's behaviour is determined by his attitude towards the outcome of that behaviour, and by the opinion of significant others in his social environment (Fishbien & Ajizen, 1975). It implies that a person's behaviour is determined by his behavioural intention to perform it. This intention is itself determined by the person's attitude and his subjective norms towards the behavior. An assumption is made that the immediate and sole determinant of the behavior in question is the intention to perform or not to perform that behavior. Consequently, this theory interprets social behaviour at the level of individual decision-making.

According to the theory of reasoned action, the closely related determinant of the intent to adopt a given behaviour are the individual's personal attitude towards performing the behaviour in question and the influence of social factors towards the performance of the behaviour. The attitudinal component is the major determinant of intentions for some behaviours, while for others, the normative component is the determinant influence. According to this theory, a person's intention to perform a specific behaviour is a function of two factors: attitude (positive or negative) towards the behavior, and the influence of the social environment (general subjective norms) on the behaviour. The attitude towards the behavior is determined by the person's belief that a given outcome will occur if he or she performs the behaviour and by an evaluation of the outcome. The social or subjective norm is determined by a person's normative belief about what important or significant others think he or she should do and by the individual's motivation to comply with those other people wishes or desires. An attitude is a function of belief in this theory. If a person believes that performing a given behaviour will lead to positive outcomes, then he or she will hold a favourable attitude towards performing that behaviour.

Each proximate determinant of intention has a belief based structure. The attitudinal component is a function of beliefs concerning the perceived consequences of carrying out a specific action and a personal evaluation of each of these consequences. For example, a person may believe that regular exercise will improve physical fitness and lower the risk of



sustaining a heart attack, but it will also take time away from the family. In shaping behaviour, each person evaluates the consequences attached to each of this belief. As a result, any given individual can attribute a personal value to improvement of physical fitness, decreased risk of sustaining a heart attack and the time taking away from the family.

The normative component is determined by the perceived expectation of salient referent individual or groups by the individual's motivation to comply with the expectations of these 'significant other'. For example, a physician may be perceived by the subject as thinking that the subject should exercise several times per week; however the subject in question may or may not be inclined to act according to these perceived beliefs. Another element of Fishbein and Ajzen's theory is the assumption that external variables are related to behaviour only when they have their impact on the variables specified in the theory. It is assumed that most human behaviour of interest to social psychologists are under a degree of volitional control and hence, are determined by intention. Therefore, the theory of reasoned action recognizes that personality and other socio-cultural variables do influence behaviour, however, their influence is thought to be a function of attitudinal and normative considerations.

The primary goals of the reasoned action are to understand and therefore predict social behaviours. The theory of reasoned actions has been applied to the study of exercise behaviour by a number of investigators. Overall, this theory has proven to be very helpful in understanding the decision-making process underlying behaviour that could help in controlling and preventing NCDs. Since NCDs are diseases associated with lifestyle, behaviour towards NCDs could be considered a social behavior and WHO (2011) referred to the risk factors as behavioural factors. Therefore, the theory of reasoned action could be applied to the study of prevention and control of NCDs.

Prevention of Non-communicable Diseases

Starfield, et al (2007) opined that preventive measures are all measures that limit the progression of a disease at any stage of its course. Wikipedia (2010) defined preventive measures as measures taken to prevent diseases, or injuries rather than curing them or treating their symptom. Prevention according to Salama (2011) is action aimed at eradicating, eliminating or minimizing the impact of disease and disability, or if none of these are feasible, retarding the progress of the disease and disability. Abanobi and Ewuzie (2010) further explained that prevention of diseases and health problems are usually classified into three levels. These levels include primary prevention, secondary and tertiary prevention.

Modifiable risk factors could be identified and prevented much earlier in life by avoiding exposure to tobacco smoke and use, avoiding harmful use of alcohol, physical activity and healthy diets. The five major choices that can make an individual stay healthy are moderate alcohol consumption, healthy diet/dietary habit, adequate rest/sleep, non-use of Tobacco and adequate exercise. The main benefit of these lifestyle choices is that in the future, the individual is less likely to develop heart disease, stroke, diabetes, liver problems, lung problems and certain cancers.

Unhealthy diet is composed of foods that are energy-dense yet nutrient poor and are high in saturated fats, trans-fats, refined carbohydrates or sodium. A diet low in fruits and vegetables or fiber is also characteristic of unhealthy diet. Meanwhile, this leads to poor nutrition and is one of the major risk factors for a range of chronic diseases, including cardiovascular diseases, certain cancers, diabetes and other conditions linked to obesity. According to the World Health Organization (WHO), a healthy diet emphasizes vegetables, fruits, whole grains, root crops, fat-free or low fat milk, lean meats, poultry, fish, egg, beans



and nuts. It is low in saturated fats, trans fat, cholesterol, sodium and added sugars. WHO (2011) recommends consumption of 400 grams of fruits and vegetables per day.

The hazardous effects of smoking on mortality from cancers and cardiovascular and respiratory diseases have been known for decades. In parallel, evidence of the hazards of smoking in Asian countries has established that it is a global problem. Moreover, exposure of pregnant women, children, and non-pregnant adults to second-hand smoke at home and in public places is associated with adverse birth outcomes, childhood respiratory diseases, and many of the same diseases that are associated with active smoking (Centre for Disease Control, 2019). Smoking is not only harmful to general health and exercise capacity, but also to the musculoskeletal system (Abate, et al, 2014). So avoiding smoking is one of the ways to prevent NCDs.

The benefit to health occurs rapidly as soon as one stops smoking (but takes a few years before the increased risk reduces completely). If one finds it hard to stop smoking, then one has to seek for medical intervention, some medications may be advised. Prevention and cessation remain the only effective public health measures to reduce the harmful effects of smoking. Currently there is only one legal instrument on smoking – the national environment (control of smoking in Public Places) regulations of 2004. The regulations mandate a smoke-free environment by prohibiting smoking in public places.

Huge numbers of studies have found that exercise can prevent NCDs. For example, exercise has been shown to reduce the risk of [heart disease](#), type 2 [diabetes](#) and [osteoporosis](#). It improves mood and sleep, and may even reduce the risk of developing certain cancers and [dementia](#). Regular exercise helps to protect against [obesity](#), and increasing current exercise levels can help an overweight and trying to lose some pounds. Some types of exercises can help encourage weight loss better than others: specifically, resistance training.

Physical activity and exercise programmes have been recommended for people with mental health issues. People who are active and exercise more regularly report better mental health, i.e., less anxiety and depressive symptoms, than those who are not active nor exercise. The benefits of regular exercise are both physical and mental health, making it a good lifestyle choice. A study published in the American Heart Association's journal "Stroke" showed a reduction in risk of dementia with 30 minutes of moderate intensity activity three times each week. Other benefits of physical activity include improved cardiovascular health and increased muscle and bone strength.

Lawrence (2018) suggests that in a research carried out only [21 percent](#) of adults are meeting the physical activity guidelines, while less than [5 percent](#) perform 30 minutes of physical activity per day. People can reduce the amount of time they spend being sedentary by:

- standing rather than sitting on public transport
- walking to work
- taking walks during lunch breaks
- setting reminders to stand up every 30 minutes when working at a desk
- investing in a standing desk or asking the workplace to provide one
- taking a walk or standing up during coffee or tea breaks
- spending more time doing chores around the house, especially DIY or gardening
- making excuses to leave the office or move around the building
- taking phone calls outside and walking around at the same time
- spending some free time being active rather than watching television or playing video games
- getting up and walking around during television commercials
- taking the stairs instead of using the elevator (Kandola, 2018)



BMI is used by healthcare professionals to assess if someone's weight is putting their health at risk. It is a measure of weight related to height. There are different categories of obesity as follows:

- Ideal (normal) BMI is 18.5 to 24.9 kg/m².
- A BMI of 25-29.9 kg/m² is overweight.
- A BMI of 30-34.9 kg/m² is obese (Grade or class I).
- A BMI of 35-39.9 kg/m² is obese (Grade or class II).
- A BMI of ≥ 40 kg/m² is obese (Grade or class III) or morbidly obese.

On the whole, BMI is a good estimate of how much of the body is made up of fat. However, BMI may be less accurate in very muscular people. This is because muscle weighs heavier than fat. So, someone who is very muscular may have a relatively high BMI due to the weight of their muscle bulk but actually have a proportionally low and healthy amount of body fat.

Control of Non-communicable Diseases: A Joint Action

The control of non communicable diseases should be a joint action involving individual, family, community, health workers the government and world at large.

Individual

- Healthy eating
- Avoiding junks
- Eat more of fresh leafy green vegetables and fruits
- A lot of water like 6-8 glasses per day
- Avoiding smoking or drinking alcohol
- Some occupation are hazardous, use protective equipment
- Frequent medical check-up
- Pre-employment screening should be total and without bias, the potential employee should not cut corners

Health workers

- Healthcare at grass-root is a pivotal foundation to control of NCD
- Primary health care should be strengthened by the government so as to deliver equitable health care to people at risk of developing NCD
- Attitude of health workers should be welcoming at primary health care centres since it is the first entry point for discovering some NCD
- Secondary referral practicalities must be followed duly so that NCDs not within the jurisdiction of the primary health care worker is referred.
- Home visiting is very important so as to follow up referred cases and defaulters

Industries

The food industry should be called to action because of their potential impact on rise in overweight and obesity. These five global public commitments should be made which are:

- Food reformulation
- Consumer information
- Responsible marketing
- Promotion of healthy lifestyles
- Public-private partnerships

Pharmaceutical industries

Accessible safe affordable and quality medicines should be developed and made available in especially resource limited settings. The target is to make eligible people receive

drug and counselling so as to prevent heart attacks and strokes and essential medicines to treat major NCD in both private and public sectors.

Advertising industries

Impact of advertisement of commodities or products detrimental to health termed “commercial detrimental of health” should be stopped. There is a need for government policies to be in place to regulate all adverts to be run and pre-checked by health worker in the action group so as to emphasize the detrimental part of the product e.g. “smokers are liable to die young” after a cigarette advert

Civil Society Groups

They should contribute to bridging the gap between policy formulations, suggesting directions and communicating them to multiple stakeholders, likewise channelling the government to make policies in public interest e.g. free screening for vulnerable groups like elderly, children and whoever that is been diagnosed to have NCD.

World at large

- Raise a priority accorded to non communicable diseases through international cooperation and advocacy
- Strengthen national capacity, multi-sectorial action and partnerships
- Reduce the major modifiable risk factors such as tobacco use, harmful use of alcohol, unhealthy diets and sedentary lifestyle
- Orient health systems through people-centred health care and universal health coverage
- Promote high quality research and development
- Monitor trends, determinants and progress to achieve global, regional and national targets through evidenced based interventions.

Government

- Policies should be in place to reduce pollution via noise, chemical, air and climate change
- Green revolution of “plant a tree” will help curb climate change and balance the ecosystem.
- Free drugs or at subsidised rate for people with NCD
- Digital sphygmomanometer should be distributed and people should be taught how to use it. Such gesture will encourage them to check their blood pressure at home and promptly report any deviation
- Researchers are to be encouraged to work on causes and effects of the disease condition

Health Education

- Use of billboards in vernacular and English language so as to easily convey the message its meant for
- Jingles on radio and audiovisuals at health facility to aid understanding
- Leaflets and television adverts
- Outreaches by health workers to communities who have no health facility to educate them
- Community development committees on health to lobby and liaise with outreaches in their community
- Community members should not stigmatize or discriminate against people with NCD
- Genetic counselling; this is done through history taking, delving into the pedigree of family history of illnesses



Source of Literature

In adopting any method in research study, it is imperative to put into consideration the approach that will yield the most productive result relevant to the problems at hand. In this regard, data (literature) for this seminar study were gathered from the primary and secondary source. The secondary sources of data were collected from already written works, both published and unpublished that have relevance to the subject matter, these includes text books, magazines, newspapers and various journals.

Implications to Nursing Education and Practice

Nursing Practice

Nurses in the community should health educate community members in general on non-communicable diseases, its prevention and control. They should plan health education program targeting strategic periods with large population of people. There should be enhancement of conversation and training on appropriate non-communicable diseases prevention, control and management practices focusing on knowledge of non-communicable diseases and skills transfer for addressing risk factors associated with non-communicable diseases.

Nursing Education

Regular in-service training for nurses so that they will be empowered to train people on non-communicable diseases, its prevention and management will go a long way to prevent non-communicable diseases.

Nursing Administration

Based on the findings from this study, useful policies and plans can be developed in the health curriculum. It could be of tremendous help to policy makers in organizing and giving continuous education programs to Nurses so as to update their knowledge about non-communicable diseases.

Nursing Research

More evidence based studies on effect of nurse-led intervention knowledge, prevention and management of non-communicable diseases should be considered.

Stimulant for Further Review

Further interventions studies should be conducted on prevention and control of non-communicable diseases. Similar study could be conducted by examining other variables not considered in this study. The study could also be conducted empirically so that interview can be conducted so as to come up with inferences.

Conclusion

The study examined prevention and control of non-communicable diseases: a call for joint action. It was revealed that many people indulge in practices which make them prone to NCDs. Why people indulge in such behaviour is not clear and has been a focus of criticism. There is a common criticism that health seeking behaviour studies often describe patterns of behaviour without elucidating causes, prevention and control of the behaviour. It was confirmed by previous researchers that in order to prevent NCDs a change in health practice is needed. For practice to be modified there might be the need for the influence of another individual on the one whose behaviour is to be modified.

Recommendations

The following recommendations were made:

- i. Community members should be encouraged to participate in any training programme organized by professional healthcare givers to improve their knowledge on non-communicable diseases prevention and control so as to foster reduction in negative effects of NCDs

- ii. Nurses and other healthcare workers should intensify effort in educating patients and community members on prevention and control of non-communicable diseases. They should also design different approaches in health education and ensure the approaches are effective strategy for prevention and control of NCDs.
- iii. The government should sponsor provision of information through mass media on prevention and control of non-communicable diseases.

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Cite this article:

Author(s), AYEDUN, Tosin Olusola (RN, RPHN, BNSc, M.Sc.), OJO, Taiwo Folake (RN, RM, BNSc, PGDE, M.Sc.), ISIJOLA, Bukola Ibisola (RN, RM, RPHN, BNSc, M.Sc.), (2022). "Prevention and Control of Non-Communicable Diseases: A Call for Joint Action", **Name of the Journal**: Commonwealth Journal of Academic Research, (CJAR.EU), P, 27- 40. DOI: <http://doi.org/10.5281/zenodo.5948813> , Issue: 1, Vol.: 3, Article: 4, Month: January, Year: 2022. Retrieved from <https://www.cjar.eu/all-issues/>

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