

Introducing Fruits and Vegetable Consumption among Nigerian Communities using 5 Day Policy as a Role Model for Reducing Chronic Diseases Such as Cancer and Cardiovascular Diseases

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Abstract - Fruits and vegetable initiative programme was examined by reviewing previously published articles that highlighted on the impact of consuming fruits and vegetables as one of the important component of healthy diet. Epidemiological studies conducted highlighted the impact of consuming higher amount of fruit and vegetables as a measure for reducing the extent of chronic diseases such as cancer and cardiovascular diseases. The review also highlighted the main reasons for consumption of 5 a day fruits and vegetables. The review was aimed at examining the main health inequalities among different population and reducing death resulting from illnesses due to obesity and its relate diseases. It as well highlighted on the health improvement programmes designed by other countries and archived a greater success. Main intervention measures and target population for the programme were also highlighted. The major barrier that served as the looming factors for the implementation of the programme was also discussed. Appropriate conclusions and recommendations were suggested for the success of the programme.

Key Words: Fruit, Vegetable, Healthy Diet Diseases, Death.

1. INTRODUCTION

Intake of fruit and vegetables has said to be an important component of healthy diet. Data from epidemiological studies conducted in different part of the world suggested that consumption of adequate amount of fruit and vegetable could reduce the extent of chronic diseases such as cancer and cardiovascular diseases (International Agency for Research on Cancer, [17]. An epidemiological evidence shows a serious link between fruit and vegetable intake in relation to cardiovascular disease risks. Consumption of higher amount of vegetables and fruit contribute to low risk of having coronary heart disease, stroke and cancer as recorded by several observational studies conducted in different part of the world [2]. Other observational studies consistently suggested that, large amount consumption of fruit and vegetables is associated with low rate of cancer of different type which include; Lungs, Pharyngeal, Esophageal and Gastric cancer [2]; Riboli & [27].

An evidence based research suggest that, beta-carotene may reduce the risk of cardiovascular disease significantly and

consumption of fruit and vegetable containing carotene help significantly in reducing attributable deaths resulting from cardiovascular diseases. Furthermore, the study suggested that, higher death rate of people consuming more fruit and vegetables are less compared to those consuming fewer amounts of fruit and vegetables [13]). Similarly inadequate intake of fruit and vegetables is associated with over one million deaths annually within European Union [9]; [23]. Although fruit and vegetable consumption at considerable amount was found to be one of the best way of reducing deaths and diseases of coronary heart and cancer [13]; [1]; [9], still it has not been given serious consideration by the general public as reported by several studies that "consumption of fruit and vegetables in England community remain low with an average consumption of 2.8 portion instead of 5 portion as recommended and with more number of female adult to 15% consumption then male with 13% [1]. Similarly other studies suggested that very few people comply with the programme of consuming more fruit and vegetables especially in developing countries [3].

1.1 Background:

Fruit and vegetable are said to improve the healthy being of people who consume it to a reasonable amount. Regular intake of fruit and vegetable to certain amounts as suggested by several studies could contribute in preventing chronic diseases including cancer and cardiovascular diseases [30]. One of the national food nutrition priority is to encourage intake of fruit and vegetables for better health promotion and reducing attributable death and non-communicable diseases such as cancer and coronary heart diseases. Intake of fruit and vegetables was shown to improve on the total reduction on the risk of death resulting from cancer and coronary heart diseases. A report on the global burden of disease and attributable deaths as a result of low intake of fruit and vegetable involving 14 regions of the world indicated that, about 2.635 million deaths per year occur due to low fruit and vegetable intake [20]. Studies on the effect of low fruit and vegetable intake has contributed to increase in disease burden in countries like Australia, New Zealand and European Union to about 2.8%, 2.4% and 3.5% respectively [21]. Other studies suggested that burden of ischemic heart disease can be reduced o 31% if fruit and vegetables intake could be increased and ischemic stroke can be reduced to 19%. Similarly cancer of the stomach,

esophageal, lungs and colorectal cancers can be reduced by; 19%, 20%, 12% and 2% respectively [20]). Fruit and vegetable consumption is an effective approach for ensuring healthy generation of youth and supporting a range of policies especially obesity and tackling in-equality among the people [9]. In a study conducted in India titled Indian Experiment of Infarct survival (IEIS) in order to compare between low fat diet consumption enriched with vegetables and fruit and was compared with a standard low-fat diet, the result shows a significance difference with about 40% reduction in cardiac events and 45% reduction with respect to mortality within a period of one year. A study conducted to assess the effectiveness of fruit and vegetable consumption with respect to their price suggested that, 70% of people from low income family can-not afford to buy fruit and vegetable due to higher cost. In that regard the study suggested that the public policy should find a way of reducing fruit and vegetable prices for more availability to low-income family [8]. A report on fruit and vegetable intake conducted in 2002 by WHO and FAO suggested that, fruit and vegetable intake have the potentiality of reducing the risk of cardiovascular disease, cancer risk and diabetes and obesity risks. Similarly nutrient deficiency can be reduced [23]. Due to the higher rate of deaths resulting from cardiovascular disease, cancer, stroke, diabetes and obesity, a great link between such deaths and fruit and vegetable consumption were recorded from different part of the world as an evince of reducing burden of such deaths and other attributable disease [8]; [19]; [20]; [14]. As one of the policy agenda to tackle childhood obesity and reformation of agricultural policy on fruit and vegetable (FV), European Commission (EU) presented proposal on 7th January 2007 to a larger legislation process to modernize CAP during the year 2008. The EC approved 60% budget contribution towards promoting fruit and vegetable consumption as targeted at childhood and adolescents with other announcement of new addition of fund on fruit and vegetable presented on April, 2007 by the EU which were not being in the earlier budget, this lead to publishing a white paper on children on schools for fruit and vegetable in order to tackle obesity [9].

1.2 Reasons for 5 a day fruit and vegetable consumption

Sample paragraph, The entire document should be in ca As suggested by several studies on the impact of fruit and vegetable consumption on general population, some of the major benefit of consuming fruit and vegetables are outlined below;

- Because fruit and vegetables contain little fat and lower in calories than other foods, so it helps as a choice for maintenance of healthy weight.
- Fruit and vegetables contain higher amount of vitamins and minerals which support good health.
- Both fruit and vegetables contain soluble and insoluble fibers that help to maintain healthy digestion and reduce cholesterol level respectively.

- Consumption of higher amount of fruit and vegetable reduces the risk of cardiovascular diseases and cancer.
- Fruit and vegetables are source of anti-oxidance [24]; [15]; [8]; [2]wq.

1.3 .Public health interventions recommendations

The government should introduce 5 A DAY programme with the aim of increasing fruit and vegetable consumption. There has been public intervention with a clear evidence of success from much literature as recorded:

- Fruit and Vegetable scheme to schools as free to tackle obesity.
- Communication programmes including use of logo to demonstrate 5 A DAY policy.
- Working with industries, producers, caterers and retailers.
- Improving access to the fruit through targeted action by reducing the taxes on fruit and vegetables.
- Local partners, government health consumer groups in collaboration with NHS working together creating awareness on the benefits of fruit and vegetable consumption.

1.4. FRUIT AND VEGETABLE SCHEME TO SCHOOLS TO TACKLE OBESITY

Fruit and vegetables consumption should be introduced among school children in all communities in Nigeria. A joint fruit and vegetable promotion was launched in November 2003 with aim of promoting and protecting the health of children through guide at community, national level and global level with hope that it will reduce the risk of chronic diseases through consumption of fruit and vegetable. This will also help in promoting the development and implementation of national fruit and vegetable programme promotion for its sustenance.

1.5. USE OF LOGO TO DEMONSTRATE 5 A DAY POLICY

Five a day logo is used in promotional materials like printed leaflets, website information, point of sale materials, carrier bags and food packets. In some food packets, the logo indicates how many portions of fruit and vegetables a particular food contains and level of typical serving. Each filled in square of the portion indicator represents 1 portion of the fruit and vegetables, so if 1 is written on the packet it indicates only 1 portion is contained for the fruit and vegetable likewise 2, 3, 4, and 5 portions respectively. The logo of fruit and vegetable help people to choose diet with plenty of different fruit and vegetable but not all foods with fruit and vegetable have the logo since not all products comply with the criteria [10].

1.6. Working with Industries, Procedure and Retyailers

Collaborative effort of industries and promotions will improve awareness through the use of marketing promotions programmes in order to grow demand for fruit and vegetables. This was successful because, increase in consumer demand gives larger quantity of the super market and helps the growers with incentives to reinvest in their production. Promoting programme like British summer fruit seasonal which is effort of British with overseas in which, during the season of British they provide the fruit and when the season pass the oversea will provide the fruit. This helps in promoting the availability of the fruit and vegetables at every season throughout the year. Other effort used in promoting the 5 A DAY fruit and vegetable programme is by reducing the VAT on fresh fruit and vegetables and adding Vat to dried fruit, this help in making people to go for fresh fruit as the best for health and more affordable [26].

1.7. BARRIERS TO EFFECTIVENESS OF THE PROGRAMME

One of the most looming factors that contribute to the effectiveness of the programme is due to changing individual life on the choice of a particular food. Factors such as environment, economical and social can contribute to the choice of an individual food. Some people perceive that, fruit and vegetables have a high cost while others are due to the lack of availability of the fruit and vegetable especially in rural areas where the supply may not be adequately distributed to every part of the country. Similarly lack of awareness on the 5 A DAY programme with peoples knowledge, attitude, knowledge, motivation and appropriate skills on how to prepare fruit and vegetables for consumption. Such barriers should be addressed during dietary change programme.

1.8. MEASURES TO BE TAKEN FOR IMPROVING FURTHER ACHIEVEMENT

From the outcome of the studies conducted, several studies suggested that low-income families experience difficulties in getting fruit and vegetables at required proportion as recommended by 5 A DAY programme. It is hope that government and policy makers should find an alternative of reducing inequality by removing total VAT free to fruit and vegetables, this will help the low-income family in getting fruit and vegetable to the required proportion. Similarly, fruit and vegetables should be adequately available in every part of the country including local areas so that people that live in such places can have access to it, this also help to reduce inequality and subsequently help to achieve target of 5 A DAY fruit and vegetable consumption. Furthermore, parents should be involved actively in fruit and vegetable consumption for the sustenance of the programme and subsequent to the children. School fruit and vegetable intervention to schools children cannot be enough since children only consume certain portion during school hours which cannot be the same as recommended portion. It is therefore important for parents to show their total

commitments on the implementation of the programme for better future of their children. Also government should increase on the fruit and vegetable programme at school not only targeted at children of secondary 1 and 2 only; there is need of total commitment in order to achieve success of the programme. Encouraging use of logo in fruit and vegetable was shown to be one of the best and effective ways of improving people involvement into the programme and use of worksite health promotion programmes. It is hope that policy makers should make it compulsory for all companies producing and selling fruits and vegetable to be using logo showing an exact portion of fruit and vegetable suck product contain, this will improve on the level of awareness and consumption as well. Reducing tax (VAT) or free taxes on fruit and vegetable should be encouraged this will help in making fruit and vegetable available with low price that even low income family can be able to have access to buy and by doing so help to achieve 5 A DAY recommendation and subsequently reducing inequality. Similarly fruit and vegetable are seasonal food that cannot be available as freshly at all time, there is need for collaborative effort with other countries so that when the season of fruit and vegetable in UK are over the other country can bring such items in to the country, this help to maintain the sustenance of fruit and vegetable throughout the year [5]; [11].

2. POPULATION

The programme is targeted at:

1. Children; This can be achieved by ensuring elementary schools and secondary schools teachers are involved by organizing appropriate awareness on the benefit of consuming fruit and vegetables. Government involvement of providing fruit and vegetable to schools as a free in order to encourage the effectiveness of the programme as recommended by the WHO and UNICEF.
2. Adult: General population, this involve provision of fruit and vegetable at work places with effort of primary health care and other health professionals for cancelling, provision of special programme for low income groups targeting supermarket and retail setting.
3. Adult with health conditions: Adults with health related illness such as cancer and cardiovascular diseases will be encouraged to consume more of fruit and vegetables.

AIMS

- i. To work with companies, producers, retailers, and local partners for effective monitoring of fruit and vegetable consumption [4].
- ii. To improve on school fruit and vegetable initiative programme for tackling obesity and health inequality [18].

- iii. To communicate with targeted population through 5 A DAY Logo for quick understanding and compliance of the programme [4].
- iv. To discuss ways for introducing fruit and vegetable projects and appropriateness using different approaches in different locality within Nigeria.

The aims as listed above has been linked to the health protection in given adequate care to children through introducing fruit and vegetable consumption and health promotion in promoting the health of young and adult for reducing the risk of death and other cardiovascular diseases and reducing in-equality in health with special reference to UK standard as a role model.

2.1 MEASURES TO BE TAKEN FOR IMPROVING FURTHER ACHIEVEMENT

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vegetable in UK are over the other country can bring such items in to the country, this help to maintain the sustenance of fruit and vegetable throughout the year [5]; [11].

3. CONCLUSIONS

3.1 Conclusion

In an attempt to access fruit and vegetable intake as a means of reducing the burden of death resulting from coronary diseases, cancer and reducing child obesity. 5 A DAY programme was accessed as a means of evaluating criteria for the success of the programme in UK. A wide range of articles on fruit and vegetable consumption with respect to children and adults particularly related to UK and few from other part of the world were measured and critically examined. Many literatures indicated that fruit and vegetable programmes have been introduced in many part of the world especially in developed countries specifically United States of America and European countries since year's back 1992. Data collected shows a significance impact on the programme especially in US and European countries. Majority of developing countries do not introduce such programmes or no sufficient literature were found for accessing the effectiveness of the programme if any in such countries.

A success was achieved in UK as a result of interventions given to school children on fruit and vegetable consumption at schools during their lunch and reduction on taxes to fruit and vegetable to which makes it more affordable to low-income family.

3.2. Recommendations

In order to improve on the fruit and vegetable consumption as recommended by the 5 A DAY programme. The following recommendations should be taken in to consideration

1. Regulations concerning fruit and vegetable sales should be encouraged this can be achieved through collaborative effort with industries with government.
2. By improving skills and attracting new entrants in to the industries to bring competition this will reduce the cost of fruit and vegetable to more affordable amount for low-income people
3. Encouraging industry promotion with good advertising strategies such as use of logo to demonstrate 5 A DAY message to public and worksite [11].
4. Fruit and vegetable should be provided to children at lunch in schools and parents should be involved actively this will lead to success. Teachers at school and staff responsible for distribution of fruit and vegetable to children in school should be encouraged. They are very important tool in achieving success of the programme due to their influence [6].

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