

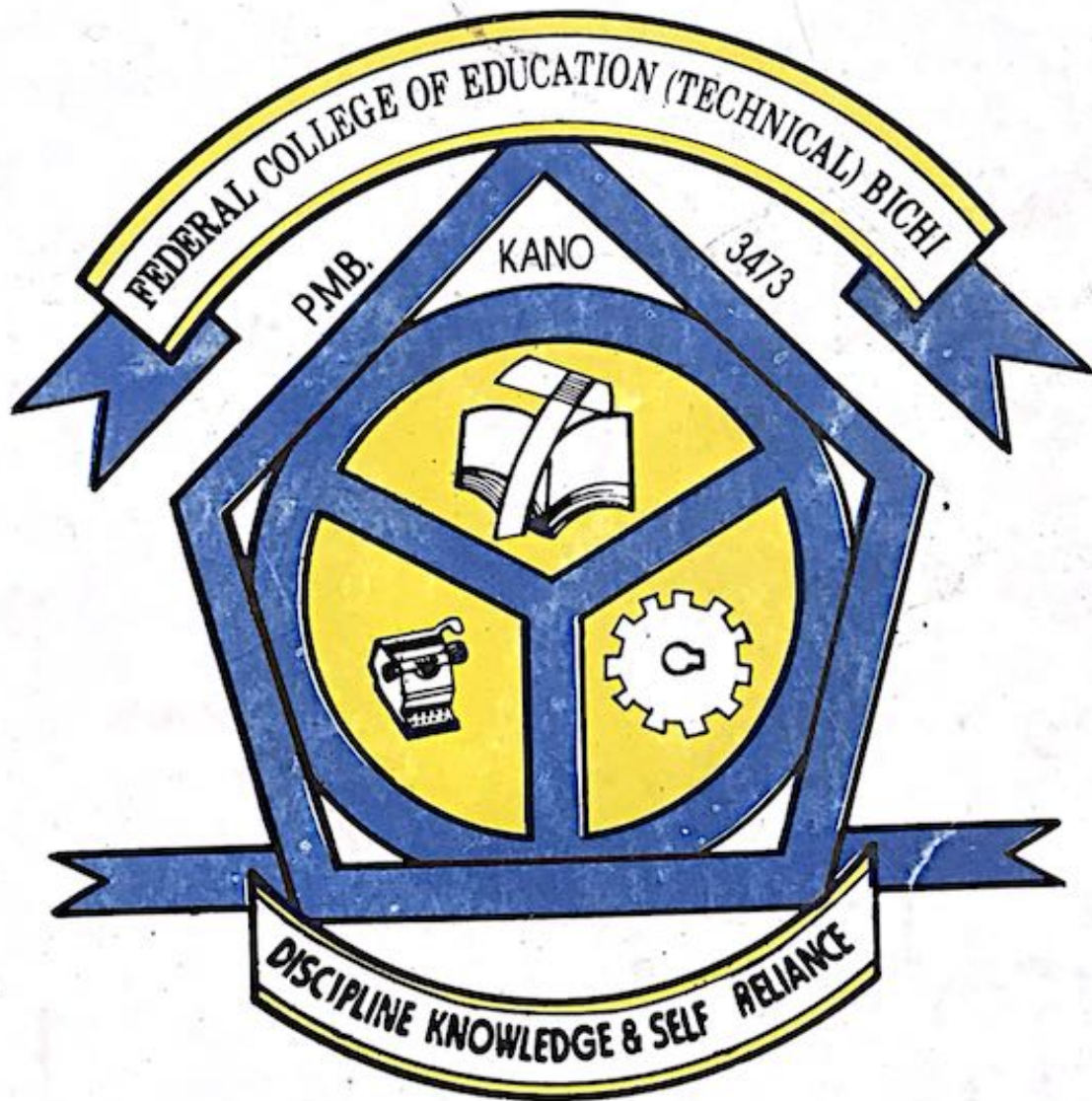
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SUSTAINING THE PROTEIN NEEDS IN FAMILY DIETS UNDER A DEPRESSED ECONOMY

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ABSTRACT

In depressed economics, chances are that consumers especially those with large and fairly large families would always adjust their food budgets to satisfy other very crucial needs. Such adjustments almost always see protein-rich foods giving way to the more bulky, less expensive energy-giving foods which are mainly carbohydrates. This approach towards meeting the constraints of the over-stretched financial resources of families often negates the primary desires for healthy living. It is noted that body cells could still synthesise the needed amino acid components even when man fails to eat the expensive proteinous foodstuff such as meat, egg, fish and milk. As a follow up to this, the paper endeavours to elucidate the various ways and means through which the protein requirements/among family members could be sustained, even in the face of crushing economic predicaments.

INTRODUCTION

A depressed economy as used within the context of this paper refers to an economic recession in the country in which the economic carrying capacity of the individuals fails to be actualised, thereby leading to an inflationary trend where most goods of basic need are forced out of the consumers list of priorities. Proteins belong to a class of food composed of chemical elements such as carbon, hydrogen, oxygen, nitrogen and in some cases sulphur and phosphorus (Dutta, 1981). Within body cells, proteins are expendable chemical compounds. This is because the end-products of their digestion are not stored as tissue replacing or body building substances. Insufficient protein calorie in the body often results in deficiency disease called kwashiorkor which is characterised by oedema, retardation of growth, muscular wasting, general irritability and susceptibility to disease infections (Uddoh, 1988). It is therefore very vital that the daily diet of the family should contain reasonable varying amounts of proteins, which according to Uddoh, (1988) should be between 60-90g for adults, and 20-70g for children of up to 18 years.

High cost of proteinous foods is a common feature in most developing countries (Oculi, 1986). He attributes this to the global agricultural division of labour that existed during the colonial era. He opined that under the colonial dispensation the capitalist colonising countries developed a balanced production of cereals and other foodstuff for calories on one hand, and cattle, chickens, eggs, and fish for proteins on the other. The development of protein sources were properly emphasised. But in the colonised countries emphasis was placed on non-protein agriculture based on the production of industrial cash crops such as cocoa, sisal, cotton, coffee and tea for export. There was total neglect for the development of a sound policy towards the growth of rich protein sources to be fed to cattle, sheep, goats and chickens that would later serve as protein sources to man.

CLASSES OF PROTEINS

Protein could be called first class or complete proteins, as well as second class or incomplete proteins. First class proteins are derived from chickens, fish, meat, cheese, soya beans and lentils. The latter class of proteins could keep the body alive but not strong enough to sustain growth (CESAC, 1980).

The end-products of proteins are called amino acids. About 20-30 amino acids are obtained from a process of protein digestion (Meyer, 1960; Uddoh, 1988). Brownsell, *et. al.* (1986), observed that the body can transform certain amino acids into other forms of amino acids which are not provided in the foods. They further observed that there are eight essential amino acids in adult humans (and ten in children) which the body cannot synthesise and as such they have to be derived from the food eaten. If an essential amino acid is lacking from the diet, proteins requiring that amino acid cannot be synthesised.

Proteins may also be classified according to biological values. Proteins which provide enough of all the essential amino acids such as egg, milk, soya bean, and meat are said to be of High Biological Value (HBV), whereas proteins which have low or are completely lacking in one or more amino acids are said to be of Low Biological Value (LBV). Most plant proteins fall into the latter group.

NEED FOR ADEQUATE PROTEIN SUPPLY IN FAMILY DIETS

Proteins are the chief components of the protoplasm and nucleus. They play very significant biological roles in the body. In Babies and adolescents who are still growing, proteins assist the development and growth of tissues. In adults they repair damaged and worn-out tissues. In addition proteins build haemoglobin, an iron-containing substance in the red blood cells (CESAC, 1980). They may also be oxidised to provide energy if the level required by body cells falls. Other important roles of proteins include the regulation of the acid-base balance of the blood and tissues, facilitating the clotting of blood and engulfing bacterial toxins and other foreign materials which might be poisonous to the body tissues. It then follows that any shortage of proteins in the body would significantly induce the susceptibility of the body to disease infections.

SUSTAINING PROTEIN NEEDS IN FAMILY DIETS

Proteins are crucial for the sustenance of life. The molecules function in the diverse chemical mechanism by which life operates (Pyke, 1981). As a means of sustaining family needs of proteins in their diets, protein-rich foods should be regularly spread over the family menu as often as possible. Animal proteins which contain most of the essential amino acids are expensive to buy. Emphasis should therefore be shifted from them to the less expensive plant proteins. Meyer (1960) highlighted that although it is difficult to build an optimum diet on plant products alone, it is possible to do so if the diet is varied. This is because most proteins present in the plant tissues are deficient in one or more of the essential amino acids. For example zein, one of the proteins of corn lacks lysine and tryptophan, while gliadin, one of the proteins of wheat, is low in lysine. However both wheat and corn contained other proteins that possess these amino acids. He opined that a diet restricted to only corn or wheat would be low in lysine but if the corn or wheat is complemented with other plant proteins that are relatively rich in lysine, then the amino acids supplied will be adequate. Proteins that are relatively rich in lysine are found in cotton seedmeal, peanut flour, soyabean meal, oats and rice. Thus families could still harness the whole essential amino acids

required by the body if different plant produce containing various mixtures of proteins are eaten. Pyke, (1981), reported that the Institute of Nutrition of Central America and Panama (INCA) successfully mixed 29% of maize, 29% of sorghum (millet), 38% of cotton-seed flour, 3% of dried Torula yeast, 1% of chalk to supply calcium, and 4500 units of Vitamin A per 100g to form a powder which was nutritionally high and fed to young children as a substitute for milk. In a similar manner, some indigenous companies in Nigeria such as Nestle and Cadbury have successfully compounded and packaged protein-rich foods from plants, but comparatively, these are quite expensive. Hence the plausible means of meeting our protein need is to source our own combination of plant proteins from the various plant produce available in our various localities.

Until recently, one grain that has not received adequate exploitation as a remarkable source of protein in the diet of most Nigerians, south of the Niger, is the soya bean. With its high protein constituent, this grain can be processed into soyabean milk, soya-bean cheese, soyabean flour and soya bean oil, all of which are highly proteinous (Pyke, 1981).

Cooking denatures and coagulates proteins. In case of eggs the process of digestion is impaired when it is boiled hard. So to retain its digestible protein composition it should be boiled soft. Most other foods do not suffer appreciable loss of nutritional values when cooked. However, the mineral salts in meat and fish drain off into the broth, thus the latter should be used in preparing the meals to retain the mineral salts (Uddoh, 1988).

Families should endeavour to domesticate livestock as well as raise some poultry so as to ensure occasional availability of meat. Those who live near rivers and streams should intensify their fishing activities so that surpluses could be sold to others. Food fads and fables which forbid people especially pregnant women and children from eating certain types of proteinous foods such as snails and pork should be removed by those communities which still uphold them. Government could also come to the aid of families by regulating the prices of commodities and foodstuff, so that the cost of proteinous foods do not soar beyond the reach of the average Nigerian. The bulk purchases and subsequent sale of most essential foodstuff by some State Governments to members of the public at affordable prices is commendable. However, the governments should workout modalities to ensure that the practise is sustained.

CONCLUSION

Proteins are indispensable constituents of the body. Without them life would be completely miserable. The notion that they are only sourced from meat, fish, eggs, and milk, all of which are expensive, is rather misleading. Proteins richly abound in plants. Under the present economic depression in Nigeria it is obvious that plant sources of proteins possess the key towards meeting and sustaining the protein needs in the diets of Nigerian families.

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INTRODUCTION
It has been asserted that the development of media technology especially radio has most significant technological developments in human communication. Undoubtedly, radio has affected the lives of many Nigerians especially people that have little or no formal education. The effect continues changing social habits and creating new ones, updating political, manners and practices, affecting teaching to entertainment, building huge demand for goods and services as well as providing people with information of the world outside their immediate environment.

Radio passes information to listeners in several ways for several purposes. Listeners in turn, create channels of communicating the acquired information to others by way of sharing the information. Listeners try to make the information useful to them and therefore other people in the society (Ade and Wadell, 1977).
Researchers (McAnany, 1977, and Adu-Adeku, 1992) indicate that the use of radio for educational purposes, especially by people with little or no formal education, is very valuable. Earlier Schramm (1964) stated this point eloquently:

"If one were to pick out an instructional medium that could be recommended for more attention by all countries that feel themselves in need of rethinking their educational system, then one might think of radio."

Radio as an instrument of communication could be said to have five distinctive classifications based on its use to listeners. First Open-Broadcasting which includes programmes that are compiled and transmitted to unorganised audience. The target audience listens to the programme as individuals. Under open-broadcasting programmes are transmitted for specific groups of listeners such as farmers, housewives, fishermen, weavers, craftsmen and so on. Second, Instructional Radio which includes instructions on subjects taught in formal schools. In most cases, practical aspects of subjects are covered under the programme for example Oral English, practical in Biology, Physics, Chemistry and other related subjects that require practicals. Third, Radio Forum which includes