

THE NEED FOR NUTRITION EDUCATION IN EDUCATIONAL INSTITUTIONS AND HOME ENVIRONMENTS

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Abstract

This paper explained the meaning of nutrition, nutrition education, importance of food to the body, highlights the importance of nutrition education in the school and home environments. The areas especially needing one to be nutritionally educated includes; importance of food to the body, nutrients for different groups, food handling, food preparation, food storage, reasons myths about food. The author also highlighted why there is the need for nutrition education in schools and at community levels as well as strategies to achieve these. The government through appropriate agencies was called upon to mount nutrition education enlightenment campaigns to promote nutrition education in educational institutions and at community levels. The need to incorporate teaching of nutrition education into health education and other relevant subject curriculums for better understanding of healthy eating and avoid food poisoning in schools and homes was also stressed.

Keywords: Nutrition education, Educational institutions, Community level

Introduction

Nutrition is the study of how food and drink affects our bodies with special regard to the essential nutrients necessary to support human health. It looks at the physiological and biochemical processes involved in nourishment and how substances in food provide energy or are converted into body tissues. These nutrients, which are the source of energy for our bodies, are classed as: carbohydrates, fats, fibre, minerals, proteins, vitamins and water. Good nutrition means obtaining the right amount of nutrients from healthy foods in the right combinations. An important part of the study of nutrition is looking at diseases that can result from malnutrition and the role that food plays in the development of chronic disease. The process by which living organisms obtain food and use it for growth, metabolism, and repair. Its stages include ingestion, digestion, absorption, transportation, assimilation, and excretion. The science that deals with food and nourishment, including dietary guidelines, food composition, and the roles that various nutrients have in maintaining health.

Nutrition education is the process of teaching the science of nutrition to an individual or group. Health professionals have a different role in educating an individual in the school, clinic, community, or long-term health-care facility. In

these settings, the dietician, nutritionist, or nurse serves to assist or enable individuals to incorporate changes in eating patterns and behaviour into their lives. The major focus of this type of nutrition is not knowledge and facts, but rather the development of permanent behavioural changes. This is the art of nutrition education – breaking down a large body of knowledge into small, individual components that are represented to a patient or client at a rate and level, at which they are able to absorb and use the information. Effective education is making nutrition information digestible and usable in an everyday setting. Contento, (2007).

Importance of Food to the Body

Food is the third most important thing for living beings to provide energy and development, maintain life, or stimulate growth after air and water. It is one of the most complicated sets of chemicals. Food plays an important role in the promotion of health and disease prevention. In general, it consists of essential nutrients, such as carbohydrates, proteins, fats, minerals, fiber, vitamins and water which are consumed to provide nutritional support for an organism and ingested by an organism and assimilated by the organism's cells to sustain health. These nutritious foods are in the form of grains, pulses, fruits, vegetables, oils, and so on.

Although each of the 7 major groups of nutrients performs different and unique functions in our body, they are all essential because they work together and contribute to our good health.

The main functions of these major nutrients can be summarized as follow:

Carbohydrates. Carbohydrates are a major source of energy of our body, and they come mainly from grains, such as rice and noodles. Besides, fruit, root vegetables, dry beans and dairy products also contain carbohydrates.

Proteins. Meat, fish, seafood, eggs, dairy products, dry beans and bean products are good sources of protein. Its major functions include building, repairing and maintaining healthy body tissues.

Fats. Fats can be found in foods such as meat, fish, seafood, dairy products, nuts, seeds and oils. Fats serve as an energy source. They prevent heat loss in extreme cold weather and protect organs against shock. They are responsible for making up part of our body cells and transporting fat-soluble vitamins such as vitamin A, D, E and K.

Vitamins. There are many kinds of vitamins from various food groups and they participate in different body metabolism such as maintaining healthy skin and hair, building bones and releasing and utilizing energy from foods. Vitamins can be classified into water-soluble and fat-soluble vitamins.

Minerals. Minerals are a group of essential nutrients which regulate many body functions such as fluid balance, muscle contraction and transmission of nerve

impulses. Some minerals also contribute to body structure and build strong and healthy bones, such as calcium.

Dietary fiber. Dietary fiber is the indigestible part found in plant. It helps stabilize blood sugar, promote gastrointestinal health and prevent constipation. Dietary fiber can be classified into soluble and insoluble fiber.

Water. Water is the most abundant substance in human body and is also an essential nutrient to maintain our health. The major functions of water include regulation of body temperature, production of body fluids, transportation of nutrients and removal of waste products.

Whenever any social function or a gathering or a conference, seminar or a business meeting is arranged; food is regarded to be one of the most essential areas as input. Nutrition is important for everyone. When combined with being physically active and maintaining a healthy weight, eating well is an excellent way to help body stay strong and healthy. All humans have to eat food for growth and maintenance of a healthy body though people have different nutrition requirements as infants, children (kids), teenagers, young adults, adults, and seniors. For example, infants may require feeding every 4 hours until they gradually age and begin to take in more solid foods. Eventually they develop into the more normal pattern of eating three times per day as young kids. However, as most parents know, kids, teenagers, and young adults often snack between meals. Snacking is often not limited to these age groups because adults and seniors often do the same (Weber, Kanamori and Rutala, ,2021).

Effective nutrition education and promotion comprises of numerous constituents: i.) skill building to make possible positive behaviour change; ii.) environmental and policy changes to make the healthy choice the easy choice, and iii.) incorporated schemes and social marketing to fabricate society and collective support. It helps consumers choose and consume vigorous and pleasurable foods by improving understanding, proficiencies, and enthusiasm to take action at home, school, and work; it is continuing, multifaceted, and distributed through a variety of channels or outlets. It will vary based on target population, and take into account awareness, knowledge and social, health, and environmental aspects; flourishing involvements will utilize various approaches for diverse groups and conditions (Nutrition Education and Promotion, 2010). Nutrition education is defined as ‘any set of learning experiences designed to facilitate voluntary adoption of eating and other nutrition related behaviour conducive to health and wellbeing. Contento (1995). Nutrition education has not only been shown to improve knowledge and skills but also eating and physical activity behaviours as well as health status.

Aina, (2009) identified three essential phases of nutrition education as a way of educating food handlers in respect of food borne illnesses they are motivational, action and the environment.

A Motivational Phase - Food handlers need to be motivated so as to inculcate in his behaviour the need to handle food with absolute care, here the goal is to increase awareness and enhance motivation of the intended audience. Many studies have shown that most food handlers may believe they know how to handle food safety, but consumer information is not always correct and mishandling occurs, they need to be motivated so that they can begin to practice good knowledge of food handling whenever they begin to handle foods. They could also be motivated by providing free soap for them during public enlightenment programmes.

An Action Phase – Here action is needed, handlers should begin to act well their parts in handling foods. Food handling practices are of public concern, and action is required to reduce the likelihood of home – derived foodborne illness. An improvement in consumer food handling behaviour is likely to reduce the risk and incidence of foodborne disease. The main goal is to facilitate the ability to take action and how to make changes.

An Environmental phase –Cooking arena are to be properly cleaned and fully prepared for the exercise. Here the environment determines the level of exposure of foods to harmful flies, rodents, germs that could have contaminated the foods left uncovered or unprotected. Handlers should make sure the cooking environment is well cared for so that dust and flies are kept away from the environment. Nutrition education is very vital in combating the menace of food poisoning in various homes. Food handlers should imbibe the spirit of carefulness because any mistake made could be harmful to the family members.

Nutrition education in educational settings

Schools provide a special medium for nutrition education and for intervention to improve children's health and nutritional status. The basic aim is to help children acquire nutrition knowledge and to develop and encourage desirable eating habits and food choices. Children can also help change the eating habits of their families by demanding desirable food, and when they themselves become parents in the future, they can impart good dietary habits to their children. Therefore, a common maxim about how to bring about a real change in dietary habits is "Go to school".

Available evidence on the effectiveness of nutrition education programmes in schools shows that nutrition knowledge is most effective if there is a supportive environment and if nutrition education is linked with practical food- and nutrition-related activities (Lytle and Achterberg, 1995). The experience in one's life, educational programme and training received are considered to be vital to one's dietary habits. Deficiency of iron in ones body can cause anaemia, sugar must be consumed in moderation, especially those diabetic individuals should avoid sugar who are diabetic, high blood sugar levels can cause harmful effects upon the human body. In most of the educational institutions, individuals are provided with mid day meals, these meals should be healthy and provide the essential nutrients to the students. In nutrition education, one of the most vital areas that should be

emphasized upon is that they should be prepared in a clean, hygienic and uncontaminated environment, vegetables and fruits should be washed before consumption and one should always wash his hands before preparation of meals or consumption of anything, if a food item is fallen upon the floor, it should not be consumed as it has acquired the dirt which has been upon the floor; these are vital aspects that need to be taken under consideration when acquiring knowledge about nutrition education. Educational institutions have been regarded to be primary avenue to impart nutrition education to the individuals. This viewpoint is regarded as extremely crucial that nutrition education is essential for the physical and mental development of the children. When the children will consume a healthy and a well balanced diet then they will be able to concentrate upon their studies and learn effectively. Celebuski, and Farris, (1996).

Nutrition education in home environment.

The importance of nutrition education in the home starts by washing hands as a way of washing away germs and bacteria for one to stay healthy. This is especially important if children still eat with their hands. We need to brush our teeth by reminding children that foods we eat may stick to our teeth, which can cause cavities and other dental problems in the future. Some households have a play kitchen or toy food (or you can make your own with play dough or paper cut-outs). Use this as an opportunity to act out how to do things like make a salad, pop corn, set the table, peel a banana, or wash dishes. This helps very young children become more independent and learn to help when it comes to family mealtime.

If you are busy preparing a meal, it is a great time to teach children of reading age how to review a recipe. Evaluating ingredients to learn how food transforms from raw to cooked helps kids learn cookery skills and helps them become more willing to try it! Asking kids to guess which ingredients are used in these dishes and identifying which food group they belong to will help them understand food groups and balanced/adequate diet. Children can also be engaged through reading of children books that reinforce healthy eating habits. Exposing children to fruits and vegetables outside of the kitchen is a subtle way to show that fruits and vegetables are part of everyday life and a normal thing to eat.

Food preparation and storage considerations

Food naturally contains bacteria and some food may contain food poisoning bacteria. Foods need to be handled correctly to ensure that: they do not become contaminated. That bacteria already in the food do not have an opportunity to grow. It is important to keep raw food totally separated from cooked or ready-to-eat foods. If raw food is cooked thoroughly most of these bacteria will be killed. However, if raw food comes into contact with other food that has already been cooked, or is ready-to-eat, the bacteria can transfer to this food. This is called cross-contamination.

The below information outlines key food preparation and storage considerations.

Receiving food. Perishable foods supplied must be transported in a refrigerated food vehicle or refrigerated containers. The temperature of deliveries should be checked. Food that needs refrigeration must be transported at below 5°C. Dry goods being delivered need to be checked for unbroken packaging, such as: bread, cans.

Preparing food. Use separate utensils, chopping boards and other equipment for raw and ready-to-eat foods to avoid cross-contamination. If this is not possible, thoroughly wash and sanitize equipment between use. Thoroughly wash all fruit and vegetables before use. Don't use any food if you cannot guarantee its freshness.

Handling food. Raw foods, which are to be cooked, can be safely handled with bare hands (provided hands are clean). Cooked or ready-to-eat foods should be handled with utensils such as: tongs, spoons, spatulas, disposable gloves.

Cooking and heating food. Thaw food in the bottom part of the refrigerator before cooking. Microwave ovens can be used to thaw food provided that the food is cooked immediately afterwards. Never refreeze food that has been thawed. All food is thoroughly cooked, especially those of animal origin and ensure the juices run clear. If food can be cooked from a frozen state extra care must be taken to ensure the food is cooked right through. If reheating food ensure that it is brought to the boil and simmered for at least five minutes.

Storage and display. If food is not stored, displayed or transported correctly the naturally forming bacteria can multiply to dangerous levels. One of the most important factors for growth is temperature with the known danger zone being between 5° and 60°. High risk foods such as meat, dairy products and seafood must spend only the minimum possible time in this zone. These same foods produced in the form of dried food powders in their original packaging, jars, cans and other containers of which have been processed by heat are not categorized as high risk foods. Safety can be maintained by correctly storing food: controlling the temperature of high risk foods: keep cold food below 5°C. Keep hot food above 60°C. Covering food with lids, foil or plastic film. Ensuring food does not remain in storage too long. Once a can is opened, any remaining food should be transferred to a suitable container and labelled with the date. Do not store in the can. Storing chemicals, cleaning equipment and personal belongings away from food preparation and food storage areas. Food that is displayed must either be wrapped or covered.

Beneficiary groups for nutrition education

The beneficiary population for a nutrition education intervention is normally made up of several groups. The vulnerable group may not be among the groups to whom the messages are directed. For example, a group at risk of vitamin A deficiency may be weaning-age children. In this case the educational intervention will be directed at all those involved in or interacting with those involved in the care and feeding of weaning-age children, such as mothers, grandmothers, adolescents and the family. The primary group is composed of people whose behaviour is to be modified; the secondary group comprises people who act as intermediaries, for example, those who will deliver the message to the first group, such as health workers, nutritionists, horticulturists, agricultural extension officers, teachers, broadcasters and journalists. The composition of the secondary group depends on the type of communication network that will be used. The tertiary group is made up of people who can help to make the programme a success through their influence and authority. These may include community leaders, financial donors and politicians, together with members of the extended family of the at-risk child. The approach and the message will vary for the different groups, depending on language, interests, educational level and socio-economic status. Griffith, (2003).

Food myths

A food myth is a misconception or unfounded idea about food in general. It may lead people to follow the latest trendy diet. It could involve cutting a completely nutritious food out of your daily eating regimen because you think it is bad for you. It is often an entirely untrue statement that's got to be busted. Examples of food myths and their meanings. *Ulcers are caused by spicy food.* Ulcers are actually caused by the bacteria *Helicobacter pylori*. Some can be caused by medications or excessive acid in the stomach. But when it comes to ulcers and spicy food, the spice is only exacerbating what is already there. Red meat is bad for you. While studies show that a diet high in red meat can lead to cardiovascular disease, consuming lean beef in moderation is healthy. Vitamin B12, iron, zinc, and selenium are essential nutrients found in red meat. *Carbonated drinks are unhealthy.* Sure, carbonated drinks in the form of soft drinks are highly unhealthy. Replace soda with carbonated water with lemon, cucumber, mango, or strawberry slices and see how thirst-quenching and satisfying it can be. *Don't eat eggs because of cholesterol.* Eggs have cholesterol, yes, but in moderation are very healthy. In fact, eggs are highly nutrient-dense. Egg yolks are also rich in choline, which is essential for muscle function. *Alcohol before bed helps you sleep.* Even though many people think a glass of wine or other alcohol will help them drift off to sleep, there is evidence that alcohol can cause insomnia, aggravate breathing-related sleep problems, and disrupt your circadian rhythm. *Nuts are a junk food.* On the contrary, nuts are full of heart-healthy polyunsaturated fatty acids and minerals like calcium and potassium. It has even been suggested that a

serving of one of your 5 daily fruits or vegetables can be replaced by a serving of nuts. *Stay away from milk when you have a cold.* Some people believe that drinking milk when you have a cold only adds to the mucus problem. This is a myth, so there is no need to avoid dairy when you are under the weather. Instead, because drinking liquids is an essential part of recovery, you can add dairy as a variant to water and juice with Vitamin C.

Government responsibility in introducing early nutrition education in schools

Government should influence and impact the long-term wellbeing of its citizens. The duties, roles and responsibilities of the government is an exhaustive list. It plays the roles of a developer, implementer, provider, protector, investor and many more. For the progress and development of any country, various projects and interventions are commonly discussed and implemented by the governing authorities. For example, improving infrastructure, improving production methods, improving trade and agriculture policies, improving environment policies, and so on. However, early childhood nutrition education hardly ever makes it to this list. Nutrition based programs such as school feeding, mid-day meals and supplementation programs are regular features of government programs, with little or no emphasis given on early childhood nutrition education, teachers training in early childhood nutrition education and consistent, regular parent's awareness programs. Why is nutrition education from an early age largely overlooked and underfunded?

Investing in educating children about the basics of nutrition education, has the power to change lives. It can unlock huge social and economic changes, especially in countries like Nigeria where the burden of malnutrition is high. Various government initiatives have been launched over the years, which seek to improve the nutrition status in the country and ensure food security. Along with all these projects, mainly focused on supporting the underprivileged and undernourished, it is equally important to simultaneously work towards nutrition literacy for the entire nation. It is the key to not only alleviate the problems of malnutrition in the country but also to empower the people of the nation to make informed food choices. It will provide them with the knowledge, skills and motivation needed for lifelong healthy eating habits.

Schools are ideal settings for promoting healthy eating which can last a lifetime. Healthy children make a healthy nation. Unfortunately, rarely do any schools implement nutrition education as an essential part of the school curriculum. The government can positively influence our education system by introducing Nutrition as an independent subject in school curricula. It is a good strategy to promote and ensure that the generations ahead are on the path to good health. This will have a direct link to the health of the country's future workforce, which when healthier will be able to create better work- based outputs and productivity.

School children are the current and future consumers and future parents. They are also an important link between school, home and the community. Since school children are at a critical age for forming good dietary habits, nutrition education will help facilitate the voluntary adoption of eating and other nutrition-related behaviors conducive to health and well-being. Children will grow into more productive adults who are able to boost a country's economic development and also pass good practices on to future generations. Early childhood nutrition education in schools is a low cost, practical and sustainable investment for the government and schools to make, so as to reap lifelong benefits for generations to come.

Conclusion and recommendations

Food and nutrition is considered to be an extremely significant and a comprehensive area of one's life. Food consumption is associated with foods that are available and accessible at homes. Despite adequate nutrition awareness, knowledge and positive attitude towards healthy nutrition, some food handlers at home still exhibit poor safety practices that lead to high level of food poisoning.

In view of discussion in this paper, the following recommendations were made:

- i. Preventive measures should be taken to reduce the risk of food poisoning at home.
- ii. People should learn more about foodborne illness through nutrition education.
- iii. Food handlers, cooks and housewives should be educated in proper food hygiene and the importance of hand washing before and after food preparation, and food protection against rodent and insect vector.
- iv. Government through appropriate agencies was called upon to mount nutrition enlightenment campaigns to promote nutrition education in educational institutions and at community levels.
- v. People should cultivate the habit of proper hand washing when dealing with foods.
- vi. People at the community level should be encouraged to learn nutrition education and how to cope with nutrition challenges.
- vii. Government should ensure infusing teaching of nutrition education into the relevant subjects curriculums like health education, basic science for better understanding of healthy eating and food poisoning in our homes.

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