



NUTRITION AND HEALTHY AGEING



Needs of Older Persons



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Caribbean Public Health Agency

formerly

CARIBBEAN FOOD AND NUTRITION INSTITUTE

Foreword

In almost every part of the world, life expectancy has risen sharply and is expected to continue rising, leading to a huge increase in the number of people reaching old age. The WHO defines older persons as people over 60 years of age. In 1995, the number of people aged 60+ years in the world increased by more than 12 million – nearly 80% of this increase took place in developing countries.

In many of our Caribbean countries, older adults make up one of the fastest growing groups. In 1980, one person in fifteen was aged 60 and older; projections are that this proportion will double by the year 2020. Persons are also living longer. Today, a person born in the Region can expect to live 15-20 years more than his/her grandparent.

Older people constitute a very diverse group. They differ in terms of both age and level of independence. Many remain fully independent and actively involved. Others fare less well. So this broadly defined population group includes those disabled by diseases such as diabetes and arthritis at a much younger age and others who are physically able such as the 73-year old grandmother in Trinidad who competes in the marathon in the world Masters Games.

Making the latter years healthy and enjoyable should be a shared goal. Nutrition is key to this process. This booklet will provide information to help older persons in the Caribbean, to practice healthy eating. It is divided into 3 sections:

- Age-related changes and their effects on nutritional status
- Guidelines on healthy eating
- Suggestions for coping with some problems that impact healthy eating

While the advice in this booklet may be useful to older persons, it will not cover adequately the special needs of persons who have chronic illnesses or other medical problems requiring medical supervision. Your doctor may find it necessary to refer you to a dietitian or nutritionist for advice.

Introduction

We are all ageing – every day of our lives. Indeed, we started to age before we were born. Ageing is a natural process a normal part of the lifecycle. People age in unique ways. Characteristics we inherit through our genes may contribute to how long we live. However, a variety of factors, including our race, sex, and cultural backgrounds, determine individual variations in the ageing process. Our living conditions, experiences, and actions throughout the whole span of life help to determine the quality of life in older age.

Adapting to the many changes that come with ageing can be a challenge, but looking after our bodies is an important part of healthy ageing. By engaging in such healthy lifestyle practices as having a healthy diet, exercising daily and not smoking will not prevent changes that are part of normal ageing, but can reduce our chances of developing heart disease, certain cancers, obesity, diabetes, high blood pressure, and other diseases commonly associated with older age. Having one of these diseases does not rule out independence and health in older age. The adoption of healthful habits can help to maintain well-being reduce the burden of disability and improve quality of life.

Being healthy means much more than freedom from illness and disability. It means feeling good, staying mentally and physically active, and having the energy to face another day. We can do a great deal to enhance the quality of life in our golden years. Developing a positive mental outlook, staying actively involved in the community, having good personal relationships, and reaching out to others all contributes to personal well-being.

There is the old Caribbean saying “*De olda de moon de briyta it shine*” which means ‘*Some people get better with age*’. Therefore, when we think of healthy ageing, we want to think of **SHINE**.

S = *Share your knowledge; celebrate your wisdom.*

H = Healthy lifestyle a must

I = *Involvement; this contributes to sound mental health.*

N = *Nourish your body through proper nutrition.*

E = *Exercise regularly using various forms of physical activity.*

I. BODY CHANGES AND AGEING

1. How do these changes affect the health and nutrition of older persons?

The consensus is that as part of the ageing process, our bodies may begin to feel and function differently – we may complain of aches and pains, may have more trouble seeing well, can become more forgetful, and may gradually lose strength and agility.

The capacity of the organs in our bodies (e.g. heart, muscles) increase during the first years of life reaches its peak in early adulthood and declines thereafter. The way we live influences how fast the decline occurs. Research suggests that healthy eating practices, regular physical activity, positive mental health, avoidance of smoking, and moderate alcohol consumption may help to delay the decline in the functioning of body systems.

Scientists believe that some of the changes seen in older persons are a normal part of ageing while others seem to be more due to living conditions and lifestyle factors.

Some of the main changes directly related to the ageing process in humans include:

- ❖ A loss of muscle with resultant loss of strength. Since roughly two-thirds of human muscle is below the waist, the loss of muscle affects basic motions such as rising from a chair or bed, walking, and standing. Weaker persons therefore, have more difficulty with the tasks needed for independent living – preparing a meal, shopping for food and other necessities. Information about what causes muscle loss in older persons is sparse. Fortunately, there is a lot of information today about how to minimize and treat it, as by regular exercise to cite one example.
- ❖ A gradual reduction of the energy required for basic functions in the body e.g. breathing, and because of muscle loss, beating of the heart.
- ❖ A gradual loss of bone - can increase the risk for fractures.
- ❖ A gradual decline in the ability to taste and smell. Tastes and smells bring pleasure and enjoyment to eating. Loss of these senses may affect the desire for food.
- ❖ Changes in the digestive system that may alter the digestion of food and the absorption of the nutrients it provides. Slower movements of food through the intestines can result in indigestion, a bloated feeling, and constipation.
- ❖ A gradual decline in mental function, believed associated with certain aspects of the diet, particularly low intakes of the B vitamins. However, individuals who continue to be intellectually active, interact socially for example by staying active in the lives of friends and relatives, are less likely to show mental impairment.

The elderly are a diverse group among whom other age-related changes, caused by or influenced by environmental factors and lifestyle habits, including the type of diet, alcohol use and level of physical activity, may contribute to certain illnesses and diminishing quality of life among the elderly. These changes include:

- ❖ Increased blood pressure

- ❖ Reduced insulin action which leads to diabetes
- ❖ Changes in the way the body utilizes the fats in food.
- ❖ An increase in accumulation of body fat. Excessive body fatness, obesity, increases risks for diseases such as: diabetes, hypertension, heart disease, and osteoporosis a disease in which bones become fragile and can easily fracture. The obese person may also have trouble in moving around.
- ❖ Increased social isolation leading to loneliness and depression that can lead to decreased appetite and interest in eating. Lack of social interaction can affect health and nutrition in many ways.

There are also factors that influence food intake, which the elderly and their caregivers need to be aware of in order to help improve and maintain the nutritional status of elderly persons. They include:

- ❖ Limited financial resources, the type of food storage and cooking arrangements can limit the variety of food they select.
- ❖ Disabilities such as paralysis because of stroke or crippling, a consequence of arthritis, and blindness, particularly if developed in later life can restrict mobility including the ability to shop and prepare meals.
- ❖ Lack of teeth or poorly fitted dentures can result in such elderly persons experiencing difficulty chewing and swallowing, limiting the intake of a variety of foods.
- ❖ Small appetites among some elderly persons, which limits the amount of food consumed.
- ❖ Excessive use of certain medication both prescribed and over-the-counter, such as laxatives can increase the risk for nutritional side effects, such as deficiency of specific nutrients.

II. SUGGESTIONS FOR MEETING ENERGY AND NUTRIENT NEEDS

A healthy lifestyle including a nutritious diet, that provides adequate energy, from the energy-providing nutrients – carbohydrates, proteins and fats as well as enough vitamins, minerals, and water along with exercise can help to address the age-related changes experienced by older adults and satisfy their energy and nutrient requirements.

1. Energy – As we age, we usually need to eat less food because our requirements for energy are less. The amount of energy we need, however, will depend on how active we are. Older persons who remain very active may not need to reduce their food intake very much. However, if we take in more energy than the body needs, from carbohydrates, proteins, or fats, the excess will be stored as body fat and will increase body weight.

It is not good for health to be too fat or too thin. Persons who do not eat enough to meet their energy needs may not get sufficient essential vitamins and minerals. We should have our weight checked regularly and get advice from a health worker about ways to improve the diet to satisfy energy and nutrient needs of our bodies.

2. Energy-providing Nutrients

2.i Carbohydrates - found in plant foods that are rich in both starch and dietary fibre. Such foods are also good sources of other nutrients such as proteins, vitamins, minerals, and water with little fat. Whole grain products such as whole wheat bread, brown rice, and oats are rich in fibre. The fibre found in these foods helps to decrease constipation that often accompanies ageing and reduces the chances of disorders of the colon and other parts of the digestive

system. Fruits and vegetables contain a different type of fibre recognized for decreasing the levels of cholesterol in the blood. Foods that provide carbohydrates are listed in Figure 1.

FIGURE 1

Foods to increase starch and fibre in the diet:

- Potato preferably baked or boiled in the skin.
- Ground provisions such as cassava, yam, coco and so on
- Rice particularly brown rice.
- Cooked breakfast cereals such as oats, cornmeal, plantain porridge or dry cereals with wholegrain ingredients as opposed to ones coated in sugar or honey. Check labels for fibre content
- A variety of fruits and vegetables.
 - A variety of seeds, such as roasted sunflower, pumpkin seeds and nuts, as snacks, where possible
- Whole wheat flour instead of white flour for baking or use half of each.
- Peas, beans and lentils; try replacing them for meat in meals.

2.ii Proteins – are essential for the life of every cell and the vital functions in the body. The requirements for protein do not change very much in older age but needs may increase when illness or injury place stress on the body.

Both animal and plant foods provide proteins.

- **Good choices of foods rich in protein:**
Foods from Animals including: fish, chicken, milk, cheese, and meat.
- **Foods from plant sources** including dried peas, beans, soybeans, sunflower, and pumpkin seeds and nuts, as well as grains such as rice or cornmeal and vegetables consumed over the period of a day, can provide good quality protein like that provided by foods from animals.
- **Poor choices of protein rich foods**
Oxtail, cow's foot, chicken feet, and pig's tail and the broth or soup in which they are cooked, **do not provide** a nutritious form of protein.

2.iii Fats – These nutrients are the richest sources of energy. They are also necessary for the absorption of the fat-soluble vitamins A, D, E, and K and they make food more pleasant to eat. While fats are essential nutrients for everyone, we should always be concerned about how much fat we are consuming. Many older persons would benefit from eating less fat, not only

because they are not as active but also because of the possibility of the excess amounts being converted and stored in our bodies as fat. An excessive intake of fat is also associated with certain cancers and heart disease.

We also need to pay attention to the type of fats we consume. The fats and oils in food contain a mixture of two types of fat – **saturated** and **unsaturated**. Excessive consumption of foods rich in saturated fats increases the level of **cholesterol** in the blood and promotes the development of heart disease.

Unsaturated fats, through a process called hydrogenation, form another type of fat, **hydrogenated or trans fats**.

Rich Sources of saturated fats in food:

Fat from meat, butter, and other products from animal sources, lard, and hard margarine

Rich Sources of unsaturated fats in food:

Vegetable oils like olive, corn, sunflower, and soybean oils, soft margarines

Sources of trans fatty acids in food:

Processed foods like potato chips, baked goods like breads, pastries, and some types of margarine and sandwich spreads.

The right proportion of both saturated and unsaturated fat **and** the total amount of fat in the diet is required for good health. Avoid excessive or frequent consumption of foods with trans or hydrogenated fats as they may also increase risk for heart disease. Some helpful tips on reducing fat intake follow in Figure 2.

FIGURE 2

Some tips on eating less fat and controlling intake of types of fats:

- Use little oil and fat for cooking as possible.
- Use semi-skimmed or skimmed milk; low fat milk and cheese.
- Cut down on high-fat snacks such as potato chips, chocolate, biscuits, cakes and pastries. Choose low-fat snacks such as fruit or crisp breads, if able to tolerate
- Buy meat trimmed of its fat or cut fat off, including removing skins, before or after cooking.
- Choose fish, lean meat, lean mince and poultry more often.
- Choose bread, cereals, potatoes, fruit, and vegetables.
- Grill, microwave, steam, poach, bake or boil and fry less often - stir-fry rather than deep-fry in oils like soybean and corn oil
 - Make salad dressing using oils like olive oil
 - Choose low or reduced fat spreads.
 - Use less baked goods and convenience foods that contain hidden fats. Examples: cream soups pastries. Cakes and pies
 - Check labels for words "partially hydrogenated" or "trans fats" and avoid excessive intakes of these foods.

3. **Vitamins and Minerals**

The amount of vitamins and minerals the elderly require remain about the same as among younger persons. However, some elderly persons who consume inadequate amounts of food may develop a deficiency of intake of these nutrients. Changes to the digestive tract, as previously stated, such as reduced production of secretions in the stomach may result in decreased absorption of some vitamins and minerals, for example the absorption of iron from foods can lead to a deficiency disease called iron deficiency anaemia. A discussion of some of these nutrients and the foods that are good sources of vitamins and minerals follows:

- ❖ **Vitamins A, C, and E** – belong to the classification called antioxidant nutrients that help to protect body cells from damage. Experts think that the carotenoids (the form of Vitamin A found in plant foods), Vitamin E and C may help to prevent cataracts and age-related changes in the eyes, leading causes of sight problems in older persons. Vitamin E may also protect against hardening of the blood vessels and heart disease, as well as the development of disorders such as Alzheimer's and Parkinson's disease.

❖ **Vitamin D and the Mineral Calcium** - Persons who are housebound or do not go outside very much may not get sufficient Vitamin D. Sunlight is needed for the formation of this vitamin in the skin. Vitamin D helps the body to absorb the mineral calcium and so helps to maintain bone health improve muscle strength and decrease disability. Older persons need to be concerned that they are getting sufficient calcium because the body absorbs less calcium as we age.

The B Vitamin Complex – Recent research tells us that these vitamins may have a key role to play in improving health in the older years. Several studies have shown that the B vitamins (folic acid, vitamin B₆ and vitamin B₁₂) may be protective against heart disease and stroke. Vitamins C and B, especially vitamin B₁₂ may also help in the prevention of memory loss, and decline in mental abilities associated with ageing.

The Mineral Iron – elderly persons do not necessarily require increased amounts of this mineral, except if they do not have adequate food sources of the nutrient in the diet. Foods from animal sources provide the form of iron that is more efficiently absorbed by the body. Plant foods are also a source iron but foods that contain Vitamin C or protein need to taken at the same meal to improve its absorption. Iron is a major component of blood.

By eating a variety of foods daily, **especially increased intakes of fruit and vegetables**, elderly persons can enhance the likelihood of getting adequate amounts of both vitamins and minerals which may lessen some of the effects of ageing. Fruits and vegetables also provide dietary fibre and provide low levels of energy.

FIGURE 3

**Ways to increase the amounts of Vegetables and Fruits daily:
Good Sources of vitamins and minerals**

- Plan meals, around vegetable dishes then add meat, fish, or dairy products and whenever possible prepare them as near as possible to the meal service time.
- Choose fruit and vegetables as in-between-meal snacks at anytime of the day.
- Add fresh or dried fruit to porridge/cereals.
- Grate or prepare them in a blender and add to beverages such as fruit punch or shakes other beverages or freeze them in ice cube trays for later use.

4. Water – is an essential nutrient whose role is often overlooked. It is present in all cells, the base of all body fluids and is needed for the normal functioning of the body. As we become elderly persons, we may not feel thirsty as often as when we were younger but it is a good habit to drink water throughout the day. An inadequate intake of fluids especially among the very old and sick persons can lead to dehydration, which can cause serious health problems.

Elderly persons should always drink plenty of fluids they enjoy throughout the day even if they are not thirsty. This will help prevent constipation and prevent dehydration. Obtaining an adequate amount of fluids is especially important for persons that consume high amounts of fibre.

FIGURE 4

Suggestions for taking adequate amount of fluid daily

1. Have 6 to 8 medium-sized glasses or cups of fluid each day.
2. Drink water, fruit juices, lemonade, mauby and other beverages; milk.
3. Avoid drinking tea, coffee or cocoa with a meal as they reduce the amount of iron the body gets from food.

III. PROMOTING HEALTHIER EATING AMONG ELDERLY PERSONS

The time-tested advice of eating enough of a variety of foods is still considered the best way of getting the right mix and balance of nutrients. It is the key to **healthy eating!** Issues such as making foods tasty for elderly persons to enjoy and controlling portions consumed so that they maintain body weight in the desirable range, also need to be taken into account.

1. Enjoy your food

Eating is an important and necessary part of our lives. It is equally important that we enjoy what we eat. This does not mean that we have to stop eating the foods we enjoy. The key is not to eat any food too often or in large quantities. Meals are more enjoyable and gratifying if eaten in pleasant surroundings and in the company of others. Here are some suggestions for persons who live alone:

FIGURE 5

Coping with Loneliness at Meal time

- Keep in touch with others.
- Share meals.
- Prepare local foods in new ways. (See Recipes in this Booklet).
- Sit by the window when you eat.
- Listen to the radio or watch television or read a book as you eat.

Nutritious meals can be prepared with little time and effort without costing too much. Aim for a variety of foods that: provide more nutrients than energy, are tasty, attractive and in a form in which the elderly person can eat and enjoy. Moisten foods as required and cut into small pieces or grind, but do not consistently serve foods of a texture that is always runny.

2. Select and Eat a Variety of Different Foods

No one food can provide us with all of the nutrients that we need. Eating a variety of different foods is therefore the best way to make sure that we get enough of all the nutrients we need. One way we get the variety is by combining foods from the six food groups used in meal planning for the Caribbean. The Caribbean Food and Nutrition Institute, using the types of food produced, available, and eaten by people in the Caribbean, categorized the food into the six groups. The chart below (Figure 6) shows the food groups and the total number of servings recommended per day. Examples of one (1) serving for each group are shown in Annex B.

FIGURE 6

Suggested Total Food Servings per Day from The Six Food Groups used in Meal Planning in the Caribbean:

- **Staples**
 - **Cereals** (8 servings each day)
 - **Ground provisions** (4 servings each day)
- **Legumes & Nuts** (2 servings each day)
- **Dark Green Leafy & Yellow and other Vegetables** (2 servings each day)
- **Fruits** (4 servings each day)
- **Food from Animals** (6 servings each day)
- **Fats & Oils** (5 servings each day)

Total Amount of Energy Provided by these servings is approximately 1800 calories per day.

NOTE: A serving is a standard amount used to guide an individual about how much to eat but a person can choose more or less than this amount as shown in the size of the portions he or she chooses.

Source: Page 150, Nutrition made Simple.

The more food we eat the greater will be the amount of nutrients and energy we get from it. It is important to have **moderate amounts** of food. Table 1 shows some food portions in household measures and the approximate amount of calories they provide for each Food Group. Notice that within each group: the amount of each food varies; the portions in the Foods from Animals vary widely; and the portions under the Fats and Oils though small are rich in calories. These variations reflect the composition of the food with those higher in fat being the highest in calories. We should pay attention to the portions or amounts of food we take, and recognize that the larger the portions the more calories we get.

TABLE 1
Food Portion Equivalents

STAPLES	AMOUNT To provide approximately 75 calories
Flour, cornmeal	1/8 cup
Rice, macaroni	1/2 cup cooked
Bread	1 slice (26 g depending on size of loaf)
Crackers	3 – 5 crackers (15 - 18 g)
Green corn	1/2 medium-sized ear or 1/2 cup kernel
Yam, green banana, dasheen, coco/eddo, sweet potato, plantain, cassava	60g/2oz. or 1/2 cup cooked
Irish potato, breadfruit	90g/3 oz raw
LEGUMES/NUTS/SEEDS	AMOUNT To provide approximately 75 calories
Dried peas, beans	1/4 cup cooked or 1 oz/30g uncooked
Cashew nuts, peanuts, sunflower seeds, pumpkin seeds, sunflower Peanut butter	15 – 20g/1/2 ounce 1 - 1 1/2 tablespoons
VEGETABLES	AMOUNT To provide approximately 40 calories
Cabbage bush, beets	1/2 cup cooked or 80g/3 oz raw
Calaloo, carrots, pumpkin, broccoli, string beans. Christophene, turnip tops, dasheen leaves	1/2 cup cooked or 100g/3 1/2 oz raw
FRUITS	AMOUNT To provide approximately 55 calories
Sweetsop. sugar apple, mango, jackfruit, sapodilla/naseberry	1 small, 1/2 cup pulp or segments
Custard apple, star apple/caimit, June plum, guava	1/2 cup pulp or segments or 1 medium
Guinep/chenette/ackee, lychee/Chinese guinep, West Indian cherry, plum	6 - 12
Orange, ortanique, tangerine Cashew apple/bananas Pineapple Watermelon, cantaloupe	1 medium-sized citrus fruit 3 – 4 cashew apples/bananas 1 large (100g) slice pineapple 1/2 cup fresh pulp or juice 1 cup chunks
Grapefruit, pawpaw/papaya, peach, ripe banana	1 cup sections, chunks 1/2 medium-sized grapefruit or solo pawpaw or ripe banana

FOODS FROM ANIMALS	AMOUNT	CALORIES PROVIDED
Medium fat meat, poultry	30g, or 1 ounce	Approximately 90 calories
Fresh fish	60g or 2 ounces	Approximately 90 calories
Cheese	30 g, or 1 ounce	Approximately 80 calories
Whole milk Full cream evaporated milk	125 ml or 4 ounces 4 tablespoons	Approximately 80 calories
Egg	50 grams or 1 medium	Approximately 80 calories
Skimmed milk powder	2 level tablespoons or $\frac{3}{4}$ ounce	Approximately 80 calories
FATS AND OILS	AMOUNT	CALORIES PROVIDED
Cooking oil, butter, margarine, shortening	1 level teaspoon or 5 grams	Approximately 45 calories
Arilli – fleshy sections of Jamaican ackee	3 or approximately 25 grams	Approximately 45 calories
Avocado pear	30 grams or approximately 1 ounce	Approximately 45 calories
Dried coconut	Approximately 15 grams or 1 tablespoon	Approximately 45 calories

There are other foods which do not fit into the Six Food Groups, the “taste-makers” that are concentrated sources of calories. We should also have small to moderate amounts of these foods. They include the following:

- 1 level teaspoon sugar, jam or jelly contain approximately 20 calories.
- 1 ounce sugar cane juice, or 1½ level teaspoons honey or syrup provide approximately 20 calories.
- 2 level teaspoons popular chocolate-based beverages provide approximately 20 calories.

3. Suggestions to Improve the Taste of Foods

Try spices, essences, and fresh herbs to improve the flavour of food. Avoid excessive amounts of **sugars, jam, jelly, honey and other sweets, chocolate-based beverages and those with added sugar, alcoholic drinks, as well as condiments (such as ketchup, seasonings), and salt. These products provide either mainly calories or they are extra sources of sodium.**

3.i Avoid excessive consumption of sugar

Our bodies obtain all the energy it needs from the food we eat. Excessive consumption of sugar in foods and drinks supplies the body with unnecessary calories and has no nutrient value. This excess of energy can lead to obesity. Remember, obesity increases the risk for diseases such as diabetes and hypertension among others. Sugar is also the leading cause of tooth decay. It is important to brush teeth regularly with fluoride toothpaste. Here are some suggestions for reducing the amount of sugar in foods.

FIGURE 7

Try one or more of these tips to cut down on sugar:

- Try drinking tea and coffee with less sugar, or use an artificial sweetener.
- Choose low-calorie soft drinks; or unsweetened fruit juices.
- When buying canned fruit, choose the type canned in natural juice rather than in syrup.
- Have small portions of cakes, biscuits, sweet pastries, sweets and chocolate and do not have them too frequently.
- Cut down on jam, marmalade, syrup and honey.
- Choose whole grain breakfast cereals rather than those coated in sugar or honey.
 - Prepare hot cereal (porridge), serve with fresh/dried fruit like banana, pawpaw or raisins
- Reduce the amount of sugar in recipes where possible

3ii. Avoid excessive consumption of salt

Salt is a source of the mineral sodium but most of us eat more salt than we need. Since many people experience a loss of taste, as they get older, there is a tendency to add a lot of salt to foods. This can encourage high blood pressure and increases the risk of heart and kidney disease or strokes. Excessive sodium may also lead to loss of calcium from the body, which may contribute to osteoporosis (softening of the bones).

Learn to enjoy the natural flavour of foods; make use of herbs and other flavouring agents apart from adding salt. Here are some suggestions:

FIGURE 8

Some suggestions for reducing salt in foods:

- Use less salt in cooking; instead flavour foods with herbs, spices, vinegar, or lemon juice.
- Do not add salt to meals at the table; “taste before you shake.”
 - Buy fewer salted foods such as bacon, cheese, smoked fish, salt fish, corned beef, sausage, ham
- Cut down on salted nuts and other salty snacks.
- If buying tinned vegetables, choose ones marked “No added salt”.
- Tinned and packet soups and stock cubes for making gravies are very salty. Try making your own soup adding more herbs and spices for flavour; use them to flavour gravies as well.

Check food labels for those with less added salt or that show “low sodium.”

4. Eat Meals Regularly

Eating regular meals each day is just as important as what we eat. Skipping meals can lead to out-of-control hunger, often resulting in overeating. This makes it more difficult to maintain a desirable body weight.

Older persons should eat three or more meals each day, including a good breakfast. Table 2 illustrates the distribution of meals in a day to approximate the number of servings suggested in Figure 6 into three meals, breakfast, midday and evening meals, and three snacks, mid-morning, mid-afternoon and night. Early morning tea is one way of helping to stimulate movement in the intestines and encourage regular bowel movement. Breakfast is the best meal of the day after the night of fasting; plan to take a good variety of foods, as this first meal of the day should contribute a significant proportion of daily nutrients. For the person diagnosed with diabetes, high blood pressure or with high levels of fat in the blood, three or more meals provide better control of the particular disease.

The menu for an elderly person demonstrated in the meal plan in Table 1

Menu

Early morning tea	Tea with milk
Breakfast	Banana Egg sandwich made with whole wheat bread Tea with milk Margarine
Mid-morning	Cinnamon-flavoured oats with milk topped with diced pawpaw
Midday	Steamed steak fish with gravy Crushed yam Parslied carrots Cherry juice with sugar
Mid-afternoon	Fresh fruit salad
Evening	Black-eyed pea soup with breadfruit, dumpling, cabbage bush, and chicken (skin removed) Fruit Salad
Night Snack	5 small round crackers (biscuits) Cocoa with milk

TABLE 2
SAMPLE MEAL PLAN

Approximately 2000 calories per Day

Meal	FOOD	SERVINGS	FOOD GROUP
Early Tea	Tea 4 tablespoons evaporated milk	1	Food from Animals
Breakfast	1 medium Banana	1	Fruits
Breakfast	1 hard-cooked egg	1	Food from Animals
Breakfast	2 slices whole-wheat bread (shop, sliced)	2	Staples
Breakfast	1 level teaspoon margarine or butter	1	Fats and Oils
Breakfast	2 tablespoons evaporated milk for tea	½	Food from Animals
Mid-morning	4 tablespoons uncooked oats	2	Staples
Mid-morning	4 tablespoons evaporated milk	1	Food from Animals
Mid-morning	½ cup diced pawpaw	½	Fruits
Midday	2 small steaks (pieces) steamed fish	2	Food from Animals
Midday	2 heaped pot-spoons or 1 cup crushed yam	2	Staples
Midday	4 table- spoons Doved Peas	1	Legumes
Midday	1 teaspoon soybean oil (gravy) 1 teaspoon margarine for yam	2	Fats and Oils
Midday	1 pot-spoon ½ cup steamed carrot Chopped parsley	1	Vegetables
Midday	1 cup Cherry juice	2	Fruits
Mid-afternoon	1 cup Fresh fruit salad	2	Fruits
	Water		
Evening meal	2 ounces chicken breast	1	Food from Animals
Evening	4 tablespoons flour for dumpling	2	Staples
	3 ounces breadfruit (raw)	2	Staples
	Cabbage Bush		Vegetables
Evening	1 level teaspoon cooking oil (dumpling and soup)	1	Fats and Oils
Night Snack	6 Crackers Small, round type	1	Staples
	2 tablespoons evaporated milk (for Cocoa)	½	Food from Animals

Note: The calories provided by approximately 5 level teaspoons sugar, for use as desired, are included in the 2000 calorie meal plan.

Notice that in the above meal plan, the snacks are a planned part of the meal plan for the day, chosen from the six food groups. This meal plan also demonstrates how persons with small appetites, can spread food over the period of a day. Making foods attractive will also help increase appetite.

5. **Drink alcohol in moderation, if at all.**

Alcohol can provide people with a feeling of relaxation and contributes to the pleasure of eating and drinking and to social interaction. It provides mostly calories and little or no nutrients. Serious health problems result from excessive drinking of alcoholic beverages such as beer, wine, whiskey and liqueurs. Research has also demonstrated that alcohol in small amounts has some health benefits for example, reduce the risk of coronary heart disease.

Drinking too much alcohol can cause weight gain, nutritional deficiencies, hangovers, high blood pressure, liver damage, cancers of the mouth and throat, psychological and emotional problems, and accidents.

Having alcohol at the same time with other drugs such as prescription medication is extremely harmful. This is especially important for persons older than 65 because they are often heavy users of prescription drugs.

Some studies among various populations have shown that moderate alcohol intake may be beneficial. For men moderate intakes are 15 – 40 g per day and for women 10 to 30 g per day, one ounce (1 oz.) is 30 gram. Figure 9 shows levels of moderate intakes of alcohol in the beverages listed.

FIGURE 9

Each of the following alcoholic beverages contain 1 unit of alcohol:

- Half-pint of beer
- Small glass of wine
- Small glass of sherry
- Single measure (1oz) of spirits (rum, whisky, vodka)

6. **Maintain a healthy body weight**

A healthy body weight is one at which we feel good and have plenty of energy for the body to carry out various activities that keep us alive. Our body weight depends on a number of factors including height, age, sex, heredity, and general body shape.

If we eat more foods that provide more energy than we use up in our bodily functions and through physical activity, the body will store the excess as body fat.

We will become overweight and gradually develop obesity. On the other hand, if we are eating less food and getting fewer calories than the body needs, we will lose weight and take in inadequate amount of nutrients. Overweight and underweight are both undesirable conditions and can have adverse effects on our health. Overweight persons are more likely to develop: heart disease, high blood pressure, diabetes, and some types of cancer. Underweight persons may be at risk for osteoporosis, but other factors such as heredity and lack of Vitamin D may also contribute. Other health-problems may also develop.

To obtain a healthy weight, overweight persons should take in fewer calories from food and increase their levels of physical activity. Here are some tips to help to reduce the amount of calories from food.

FIGURE 10

Tips for reducing calories from food:

- Choose foods such as bread, cereals, potatoes, fruits and vegetables from the six food groups as snacks rather than foods with “hidden fat” and sugar such as puddings, pies, sweet biscuits, pastries, cakes and chocolate.
- Cut down on the amount of fat you eat.
 - Trim all fat from meat and poultry before cooking.
- Choose foods low in fat: lower fat milk and dairy foods, lean meat, and fish to make sure you obtain essential vitamins, minerals, and protein while losing weight.
- Choose less foods and beverages sweetened with sugar, including soft drinks.
- Cut down on sweetened (carbonated or aerated) drinks.
- Cut down on alcohol.
 - Thicken gravies by rubbing the vegetables through a sieve, that is onion, sweet peppers, tomatoes and so on rather than adding flour.

If underweight, persons must increase the amount of food they consume. Some helpful suggestions for gaining weight are shown in Figure 11. Underweight persons may not be getting all the nutrients needed from their diet. B-vitamins especially will help the body use energy from foods more efficiently. Once the desired weight is achieved, a healthy weight may then be maintained by following the guidelines in this booklet.

FIGURE 11

Suggestions for Gaining Weight

- Have larger portions of food from the six food groups.
- Eat nutritious snacks between meals – fruits, sandwiches made with lean meat, cheese, paste made from cooked dried peas (Refer to Nutritious Snacks Annex B) or peanut butter, milk shakes that have fruits like banana or paw-paw added, for example.
- Keep milk powder for adding to porridge, mashed yam or other ground provision.

6i. Get Active

Getting older does not prevent a person from being physically active. It is just as important for the body to get exercise at age 60 or 80 as it is at ages 15 or 40. The benefits of physical activity increase as levels of activity increase. Regular physical activity can include activities such as stretching, swimming, walking, dancing and climbing stairs daily as far as is possible.

Benefits of regular physical activity in older age include:

- Continued independent living and increased ability to cope in later life.
- Allows for increased social contacts and creating relationships with others.
- Reduces the feeling of depression and anxiety.
- Releases more energy
- Allows person the ability to move with fewer aches and pains
- Improves balance and posture
- Helps to maintain body weight
- Helps to build stronger muscles and bones
- Enhances relaxation, reduces stress, anxiety and depression
- Improves sleep patterns
- Improves the quality of life
- Reduces the risk of: heart disease, falls and injuries, obesity, high blood pressure, adult-onset diabetes, osteoporosis, stroke, colon cancer and premature death.

Protect your body from injury if you are just beginning an exercise regimen or are already physically active by following these tips:

FIGURE 12

Tips on Exercising

- Always exercise at a pace that is comfortable for you.
- Always warm up properly before doing any form of exercise.
- Gradually ease into the chosen activity during the first few minutes then gradually increase the length and intensity.
 - As a safety measure, consult your physician before beginning any exercise program and in cases where the following diseases exist:
 - heart trouble
 - high blood pressure
 - unexplained pains in the chest
 - dizziness or fainting
 - a bone or joint problem that could be made worse by exercise
 - any other health condition you feel could be affected by increased levels of physical activity.

**10. A SUMMARY SHEET ON HEALTHIER
EATING FOR OLDER PERSONS**

δ Enjoy your food

**δ Eat a variety of different foods, including
fresh fruits & vegetables**

δ Eat meals regularly

δ Avoid excessive consumption of sugar and fat

δ Choose and prepare foods with less salt.

**Include plenty of foods rich in starch and
Fibre in your meals**

δ Do not eat too much fat

δ Drink plenty of fluids

δ Maintain a normal/healthy body weight

Drink alcohol in moderation, if at all

IV. Making Food Safe

The presence of harmful bacteria in food is the main cause of food borne illnesses. Here are some guidelines to help maintain food safety.

Choose wisely: Check tins for rusting, bulges or dents as these indicate presence of small holes that can allow the entry of bacteria. The covers on seals on jars are sealed. Choose frozen foods from below the frost line in the freezer. Do not select foods that are discoloured, have an offensive odour. Do not purchase eggs with cracked shells

Store foods properly: Refrigerate fresh or frozen food as soon as possible after purchase. Keep all perishable foods well wrapped in the refrigerator. Keep cold foods cold and hot foods hot until mealtime.

Discard leftovers refrigerated for a longer time than considered safe. Completely discard jams, syrups, cheeses, and yogurts that show even traces of mould. Rotate food supply, replace with fresh ones, dated with ink/marker.

Wash: Hands, cooking utensils and surfaces with warm soapy water before each food preparation step to prevent cross contamination, transferring germs (microorganisms) from one food or area of the kitchen to another. Wash produce with warm water, with a scrubbing brush if appropriate, then peel to eliminate residue. Remove the outer leaves of leafy vegetables such as lettuce, cabbage.

Cook thoroughly: Thaw meat, poultry, and fish in refrigerator, under running water or in the microwave and cook thoroughly.

Refrigerate promptly: Do not allow cooked foods to stay at room temperature for longer than two hours. Use containers that are airtight with well-fitting lids for storing cooked food.

Reheat thoroughly: Make sure that food is reheated to 165 degrees Fahrenheit to destroy all germs (microorganisms) that may re-contaminate cooked foods.

When in doubt, throw out.

V. Coping with Some Problems that can affect Food Intake among the Elderly

Awareness of certain economic and physiological factors that impact on food intake among elderly persons need to be considered so that appropriate measures to help ensure that the elderly have access to and can consume a wide variety of foods. This section offers suggestions aimed at correcting some problems that may arise.

1. To Overcome Changes in Sense of Taste and Smell

- Avoid spicy or acidic foods depending on the individual's taste.
- Practice good oral hygiene, to include frequent mouth care

- For a healthy mouth, avoid sweet sticky food; encourage the consumption of fruits, especially high in Vitamin C, vegetables and legumes and a good liquid intake.

2. **Overcoming Physical Limitations**

- Acquire special cutlery, dishes to assist with eating in cases of crippling because of *arthritis* or depending on the extent, *paralysis*. Examples of homemade aids include (a) sponge wrapped around the handles of cutlery handles to make them easier to grip; (b) wooden blocks under chair legs to raise seat level.
- Consider learning Braille to assist with interpreting recipes in cases of *partial or complete blindness*.
- Have different fruit and vegetables prepared appropriately, such as finely chopped, mashed, pureed depending on your *ability to chew and swallow*. Soft ripe fruit like bananas or mangoes, fully cooked or canned fruit are easy to tolerate.
- Persons who have no teeth or have ill-fitting dentures need to experiment with different textures of food to determine tolerance of a specific food to prevent disinterest or boredom at meal times, with having to constantly eat “mushy” or soft textured food.
- When required, apply for home help/health services that can assist with cooking if you find it *difficult to get around*. You may also share shopping or cooking chores with a friend.

3. **Coping with the Problem of Limited Income**

- Practice these habits before going to buy groceries:
 1. Check to see what food supplies and leftovers are on hand (cupboard/refrigerator)
 2. Make out menus for the week
 3. Write shopping list based on menus, and recipes selected and stock in hand.
 4. Do not rely on meat, fish, or poultry as the only source of protein – dried peas, beans, canned peas and eggs are usually less expensive than meat.
 5. Check the dates on perishables selecting items with the latest date possible.
- Try to shop when store is not busy to be able to take time to look for best buys. Have your meal then shop to avoid the temptation to buy things not needed but purchased to satisfy hunger.
- Try to avoid buying on impulse unless the items can be substituted with another on the shopping list with better buys.
- Read labels carefully so you get the best quality for money. Labels show the **date**, a **list of the ingredients** with the one in the largest amount listed first and **nutrition facts** such as the calorie, carbohydrate, and other

nutrient content. Consult your dietitian or nutritionist **for information on reading labels.**

- Ask the supermarket staff to repack food if you need smaller quantities.
- Small packages and cans usually cost more, buy the largest sizes that will serve your use and the amount of storage space available for unused portion.
- Buy vegetables that are in season, they tend to be less expensive at that time.
- Buy fruits at differing stages of ripeness – ripe, not so ripe and green to avoid waste.
- Try planting vegetables in suitable containers around the house, watch them grow as you care for them and enjoy them as part of your meals.
- Combine foods in one-pot meals using dried peas or beans to replace some of the meat in the dish/recipe.
- Make use of meals at food centres such as the Salvation Army shelters or the Red Cross in your island as required.

VI. **Planning for Emergency Feeding**

Floods, earthquakes and hurricanes are among the natural disasters for which each household in the Caribbean should prepare before any of them strikes. Here are some food preparation practices to help:

- Store a supply of food that can serve each family member for 3 – 4 days. Select foods that require no refrigeration or cooking and little or no water. These include:
 - - **Ready-to-eat foods** canned meats/fish, fruits, fruit juices, vegetables, and dried fruits such as raisins, if tolerated powdered milk; foods high in energy – peanut butter, jams, jellies
 - - **Comfort or stress foods** - ready-to-eat sweetened cereals, cookies, biscuits, sweets
 - - **Beverages** instant coffee, tea bags and malted beverages like Ovaltine etc.
 - - **Dry goods** sugar, salt, and pepper. Try to avoid stocking salty foods, as they will increase thirst, when potable water supply may be limited.

Check the expiry dates on the items every six months and replace accordingly.

- Store 1gallon water per person per day; keep a 3-day supply.
- Have a can opener and disposable utensils handy.
- Purchase a cooler for transporting cold foods. If there is warning of an approaching hurricane, turn the refrigerator to the coldest setting so food will last longer in the cooler. Use these foods first during the hurricane.
- Make extra ice.

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APPENDIX 1

EXPLANATION OF TERMS/WORDS

Absorption	The process by which the nutrients from food pass into the blood stream after digestion for use by the body.
Anaemia	The condition which occurs when the blood cannot carry enough oxygen to all parts of the body. Anaemia is caused by a lack of iron and certain vitamins in the diet as well as by loss of blood.
Anti-oxidant	A substance that protects another against breakdown from reactive oxygen present in the body. For example, Vitamin E may protect against hardening of the blood vessels.
Alzheimers	A disease that results in relentless and irreversible loss of mental function.
Bacteria	Types of organisms that the eye cannot detect
Calorie	The common name for the energy provided by food
Carotenoids	A substance in plants that gives yellow, red and orange fruits and vegetables their colour
Carbohydrate	Is a nutrient that includes starch, sugar and dietary fibre. The body obtains energy from starch and sugars in the diet. The human digestive system is unable to digest dietary fibre.
Cholesterol	A fat-like substance produced in part by the human body and is present in animal sources of food. For example, egg yolks, butter and liver. High levels in the blood increase risk for heart disease.
Chronic Diseases	Conditions such as diabetes and high blood pressure, which take a long time to develop and often have no clear-cut origin, symptoms and cures, but can be controlled.
Convenience foods	Foods designed for quick and easy preparation and use
Deficiency disease	A disease produced by a lack of or shortage of a specific nutrient.
Dehydration	Is a loss of water and salts from the body.

Diabetes	A disease in which there is excess sugar (glucose) in the blood. There is excess sugar because sugar from digested food cannot get into the cells of the body because there is either not enough insulin or the body cannot use the insulin present effectively.
Dietitian	Is a person trained in the science or study of diets/nutrition and applies them in health and disease.
Dietary Fibre	A group of substances found only in the cell wall of plants which have health benefits: help in weight control, prevent constipation, and is useful in the prevention and management of many chronic illnesses common in older persons, such as high levels of fat and cholesterol in the blood.
Digested	When food is broken down in the body into simple substances
Energy	Is the ability or capacity to do work; the heat or calorie value of foods.
Food Groups	Is a method of sorting foods according to their approximate nutrient contribution. Six groups are recognized in the Caribbean: Staples, Legumes (includes nuts). Vegetables, Fruits, Food from Animals, Fats and Oils.
Genetics	Is the study of heredity (inherited traits) and variations in animals and plants.
Grill	A method of cooking in which food is exposed to direct heat on a metal rack. It is suited for thin cuts of meat as thick cuts may be overcooked on the surface before the interior reaches the desired stage.
Ground provisions	Starchy fruits, roots and tubers such as breadfruit, yam, potato and cassava.
Hypertension	High blood pressure
Lifestyle	The choice a person makes about his/her way of life and includes choices about diet, smoking and physical activity.
Microorganism	An organism too small to be seen without a microscope.

Nutrients	Six nutritious substances found in food – protein, carbohydrates, fats that provide energy, vitamins, minerals and water.
Nutrition	Is the sum of processes by which humans take in and use food substances.
Obesity	A condition in which there is excessive body fat.
Osteoporosis	A condition characterized by: a reduction in the total amount of bone, increased softening of the bones and increased risk for fractures.
Peristalsis	Co-ordinated muscular contractions that move food through the gastrointestinal tract.
Sandwich Spread	Ready-prepared sandwich filling
Saturated fat	Hard, waxy fat found mostly in food from animal Sources such as meat, butter; coconut oil is also saturated.
Trans fats	Are made from unsaturated fats such as vegetable oils resulting in a semisolid product at room temperature. Such products have more trans fats than the oil from which they were made.
Unsaturated Fats	Are liquid at room temperature found in vegetable oils such as corn and soybean oils

APPENDIX II

THE SIX CARIBBEAN FOOD GROUPS SHOWING EXAMPLES OF ONE SERVING

FOOD GROUP	FOODS	WHAT WE GET FROM THEM
STAPLES Cereals	Cereals: bread, wheat flour, wheat flour, corn, cornmeal, dried cereals, macaroni, spaghetti, rice, cereal porridges.	Carbohydrate (starch); (sugar in some dry cereals); protein; B complex vitamins and fibre.
Starchy fruits, roots, tubers/ground provisions	Banana, plantain, breadfruit, yam, potato, dasheen coco/eddoe, cassava.	Carbohydrate (starch), fibre, water, small amounts of vitamins, small amounts of vitamins, protein and minerals.
	Example of 1 serving: 1 slice bread (20g)	
	½ cup cooked cornmeal 3 ozs. Breadfruit (raw)	
LEGUMES Peas beans, nuts & seeds,	Red peas (kidney beans), gungo/pigeon peas, black-eye peas, cow peas, other dried peas and beans, peanuts, cashew nuts sesame seeds, pumpkin seeds, dried coconut. Example of 1 serving: ½ cup cooked peas 16 shelled peanuts 1 - 1½ tbsps. Sesame seeds	Carbohydrate, fibre, the minerals calcium and iron, B complex vitamins & fat & vitamin E in soybeans, peanuts, cashew nuts and seeds.

FOOD GROUP	FOODS	WHAT WE GET FROM THEM
<p>VEGETABLES</p> <p>Dark green leafy</p> <p>Yellow vegetables</p> <p>Other vegetables</p>	<p>Callaloo/spinach; dasheen leaves, cabbage, pak choy, string beans.</p> <p>Pumpkin and carrots.</p> <p>Squash, cho-cho, (christophene), cucumber, tomato, garden egg/aubergine</p> <p>Example of 1 serving: 2 full/heaping tablespoons of most vegetables 3 full/heaping tablespoons of very small vegetables</p>	<p>Vitamin C, carotene (some of which is converted to Vitamin A), iron and calcium.</p> <p>Carotene.</p> <p>Water, fibre, low levels of energy (calories), small amounts of vitamins and minerals.</p>
<p>FRUITS</p>	<p>Mango, guava, citrus (orange, grapefruit, limes, tangerine), pineapple, West Indian cherry, pawpaw/papaya, golden apple, sugar apple/sweet sop.</p> <p>Example of 1 serving: 1 medium fruit 2 small fruits 1 medium glass (quarter pint) pure fruit juice Mango, guava, citrus (orange, grapefruit, limes, tangerine), pineapple, West Indian cherry, pawpaw/papaya, golden apple, sugar apple/sweet sop.</p>	<p>Water, fibre, carbohydrates (sugar), vitamins (especially vitamin C & carotene), minerals – mainly potassium. Moderate to low levels of energy.</p>
<p>FOOD FROM ANIMALS</p>	<p>Meat, poultry, fish – fresh, canned, pickled, dried; egg, liver, heart, kidney, tripe</p>	<p>Protein, fat, vitamins A, B, D, E, minerals, cholesterol,</p>

FOOD GROUP	FOODS	WHAT WE GET FROM THEM
<p>Meats etc Milk & milk products</p>	<p>(offal) milk, cheese, yoghurt</p> <p>Example of 1 serving: 4 small cubes goat/stewed beef 1 small chicken drum stick 1 ounce cheese ½ cup fluid milk</p>	<p>Carbohydrate from milk, protein, calcium, vitamins</p>
<p>FATS & OILS</p>	<p>Cooking and salad oils, butter, margarine, shortening, coconut cream/milk, meat fat, nuts, avocado pear, Jamaican ackee.</p> <p>Example of 1 serving: 1 level teaspoon margarine or butter 3 pieces Ackee 1 Small piece avocado (4 inches across/diameter)</p>	<p>Fat, rich source of energy/calories, vitamin A (butter, fortified margarine and vitamin E.</p>

APPENDIX III

SELECTED RECIPES

SALADS

FRESH FRUIT CUP (5-6 Servings)

- 1 cup orange sections
- 1-cup grapefruit sections
- 1-cup firm, ripe pawpaw cubes or balls
- 1 large, firm ripe banana, peeled, cut in thin slices or semi-circles
- 1 cup orange juice

Combine fruits, orange juice any juices from the preparation of the other fruits. Toss lightly and add freshly grated nutmeg and a dash of bitters. Chill or serve with cracked ice.

Source: *Nutrition Made Simple*

GREEN BANANA SALT FISH SALAD

- 3 green (unripe) bananas, cooked
- 2 medium carrots finely grated
- 1 small cucumber, grated
- 1 medium tomato, finely chopped
- 1 small avocado, cubed
- 1 stalk celery, grated
- ½ cup cooked flaked salt fish

Cut bananas crosswise into ½ inch slices.
Toss bananas and remaining ingredients with Veggie Fruit Dressing. (See **Salad Dressings** Section)

BREADFRUIT SALAD

- 1 cup cooked carrot
- ½ cup cooked dried peas (any kind)
- ½ cup diced sweet pepper
- ½ medium-sized breadfruit
- 1 small head lettuce
- 3 tablespoons reduced-calorie mayonnaise

Wash breadfruit, cut into eight slices, peel, core and cook in boiling water until tender. Wash and separate lettuce leaves, and arrange on platter. Cut cooked

breadfruit into 1-inch cubes. In a bowl, combine breadfruit, peas, carrots, and mayonnaise. Arrange breadfruit mixture on bed of lettuce leaves, and decorate with wedges of tomato.

Source: *My Nutrition Summer Camp Cookbook*

Yam Salad (3-4 Servings)

4 cups diced, cooked yellow yam
1 hard-cooked egg, chopped
½ medium-sized onion, grated
¼ medium-sized sweet pepper, finely chopped
3 tablespoons low-calorie mayonnaise
1 tablespoon finely chopped parsley
½ teaspoon prepared mustard
1 stalk celery, grated
Paprika

Place freshly cooked, diced yam in a bowl and add remaining ingredients, except paprika. Mix thoroughly. Place in a serving dish and sprinkle with paprika. Serve hot or cold with roasted meat, poultry or fish and vegetables.

Variations:

Add 1 cup cooked carrots or peas or corn

Substitute ½ cup cream or evaporated milk and 3 tablespoons vinegar for mayonnaise, and chopped parboiled Callao for celery.

Source: *Nutrition Made Simple*

MAIN DISHES

Macaroni and Pumpkin Pie

4 ounces macaroni
4 ounces cheese
12 ounces pumpkin
1-tablespoon margarine
2 tablespoons flour
Salt, pepper, mustard to taste
1 cup (low fat milk)
Sweet pepper and parsley for garnishing

Break the macaroni into 1-inch pieces and cook in boiling water. Drain. Cook pumpkin in boiling water. Drain. Prepare cheese sauce. Melt margarine in a pan. Add flour gradually, stirring to a smooth paste. Add milk gradually, stirring well. Cook for two minutes. Stir in $\frac{3}{4}$ of the grated cheese. Add seasoning to taste. Add mashed pumpkin and cooked macaroni. Mix well. Place the mixture in greased baking dish and bake in hot oven 400° F, or (Mark 7) until brown, about 20 – 30 minutes. Serve garnished with parsley and sweet pepper.

Split Pea Pudding

1 cup cooked split peas
1 medium onion, chopped
5 ounces chopped ham
1 tablespoon chopped herbs
1-tablespoon margarine
1 beaten egg
Salt and pepper to taste

Rub peas through a sieve. Add other ingredients. Beat well. Place in a greased baking dish, bake in a preheated oven 350°F, for about twenty minutes.

Source: *My Nutrition Summer Camp Cookbook*

Stir-Fried Chicken and Vegetables

250 - 375g ($\frac{1}{2}$ - $\frac{3}{4}$ lb.) chicken
2 teaspoons curry powder
 $\frac{1}{4}$ teaspoon hot pepper (may be omitted if not tolerated)
 $\frac{1}{4}$ teaspoon salt (use enough to flavour)
1 clove garlic
100g ($\frac{1}{4}$ lb.) carrots
1 medium-sized onion
1 green sweet pepper
4 – 6 large callaloo or amaranth or baghi stalks (no leaves)
2 tablespoons cooking oil

¼ cup water

Clean chicken; remove skin. Cut chicken in thin strips; season with curry powder, hot pepper, salt and minced garlic and set aside. Prepare vegetables – wash, scrape, and cut carrots into thin round slices. Cut onion into wedges and separate the layers. Cut sweet pepper into one inch (2 – 3 cm) squares. Strip callaloo stalks, and cut crosswise in neat pieces. Heat the oil in a large pan, wok, or Dutch pot (which has a cover). Add seasoned chicken; toss quickly and cook for 1 – 2 minutes until lightly browned. Add vegetables and water; cover; lower flame and steam until vegetables are crisp-tender. Serve hot over mashed green bananas (figs) or rice.

Pigeon/Gungo Peas Surprise Loaf

4 cups cooked pigeon/gungo peas, crushed
4 tablespoons margarine
½ cup milk
2 tablespoons chopped escallion/chive and thyme
2 eggs (hard-cooked)
2 cups mashed yam or other ground provision
½ cup breadcrumbs

Place crushed peas, seasoning, milk 2 tablespoons margarine, and mashed ground provision in a mixing bowl and combine well. Pour half mixture in a greased 1.5/3 pound loaf pan; place shelled hard-boiled eggs in this mixture pour the other half of the mixture over the eggs. Sprinkle with breadcrumbs and dot with margarine. Bake in a moderately hot (180 ° C or 350 ° F oven for 25 – 30 minutes. Slice and serve with hot rice, cornmeal or macaroni and a green or yellow vegetable.

Source: *Nutrition Made Simple*

Doved Peas

Boil some green peas in water until soft. Cut up slices of ham or cooked meat with minced onion, red pepper and sweet marjoram. Mix the seasonings together with the peas and fry them in a fat rich in polyunsaturated fat like corn, soy oil for example. When dry but not crisp, stir in a small amount of butter and serve hot with fish or as a side dish to a meal.

Adapted: Caribbean Cookbook by Rita G. Springer

NUTRITIOUS SNACKS

Sweet Potato Pancake (Approximately 10 pancakes)

1 egg
1 medium onion, sliced
2 cups diced uncooked sweet potatoes
¼ cup flour
Pinch salt

Break egg into blender. Add onion, salt and half potatoes. Cover and process at "grind." Add remaining potatoes and process at "grind." Spoon batter on a hot greased non-stick pan and cook on both sides until brown. Drain on absorbent paper.

Cheese and Carrot Sandwiches

4 ounces cheese
¾ cup finely grated carrot
2 tablespoons onion (grated)

Dash white pepper
2 tablespoons mayonnaise (low fat)
1-tablespoon mustard
2 loaves day old bread

Grate cheese. Add grated carrot and other ingredients. Mix to a smooth paste. Spread the filling on bread. Cut to desired shape and serve.

Banana Pumpkin Muffins

2 cups flour
¼ cup sugar
4 teaspoons baking powder
1 egg, beaten
2 tablespoons corn oil
⅔ cup milk
1cup banana, mashed

Mix the sifted flour, sugar and baking powder in a bowl. Make a well in the centre. Combine and add egg, milk, banana and oil. Mix well. Fill greased muffin cups ⅔ full. Bake in a preheated oven 400° F for 20 – 25 minutes.

Oatmeal Carrot Muffins (Makes 12 muffins)

1 cup milk
1 cup quick-cooking rolled oats
1 medium carrot, grated
¼ cup brown sugar
¼ cup margarine, melted
1 egg, slightly beaten
1 teaspoon grated orange rind
1 cup all-purpose flour
⅛ cup granulated sugar
½ teaspoon baking soda
½ teaspoon baking powder
¾ cup raisins

In a large bowl, pour milk over oats; stir to mix. Cover and let stand. Mix together carrots, brown sugar, margarine, egg and orange rind; stir into oats mixture. Sift together flour, baking powder, baking soda and granulated sugar; stir in raisins.

Stir into batter just until moistened. Spoon into greased muffin pans filling almost to top. Bake the muffins, in a preheated oven 400° F for 20 – 25 minutes or until firm to the touch. Let stand for 2 minutes. Remove from pans and cool on cake rack.

Source: My Nutrition Summer Camp Cookbook

Cowpea Paste

1½ cups boiled cowpeas
Small amount of salt
1 tablespoon grated onion
1 teaspoon margarine
1 tablespoon lemon juice

Boil the peas in water with a little salt until very soft. Mash to make a smooth paste. Add onion, margarine and lemon juice and mix. Use as a sandwich filling.

Source: Living well with HIV/AIDS.

BEVERAGES

Cucumber and Ginger Drink

1 cup cucumber
2 cups water
Sugar to taste
A piece of ginger (1" x 1")
Lime juice

Wash, peel and grate cucumber. Wash, scrape and chop the ginger. Place cucumber, ginger and water in blender. Add sugar and lime juice to taste. Blend for approximately 2 minutes. Strain and put to chill. Serve cold.

Creamy Oatmeal Fruit Smoothie

½ cup orange juice

½ cup soymilk
½ cup pineapple chunks
1 ripe banana
½ cup oats
1 tablespoon sugar
6 – 7 ice cubes, crushed

Place all ingredients in blender with the exception of ice. Blend on high for about 30 seconds. Add ice and blend for another 15 seconds. Serve.

Source: *My Nutrition Summer Camp Cookbook*

SALAD DRESSINGS

Veggie Fruit Dressing (makes 1 cup)

½ cup freshly squeezed limejuice
1teaspoon paprika
½ cup oil
¼ teaspoon dry mustard
1-tablespoon sugar
⅛ teaspoon pepper
1 teaspoon finely chopped onion or escallion (chives)

Combine and shake ingredients in a tightly covered jar. Chill and shake well before using on fresh fruit and vegetables.

Source: *Nutrition Made Simple*

APPENDIX IV

CONVERSION FACTORS FOR UNITS COMMONLY USED IN FOOD PREPARATION

Measure or Weight	Conversion	
	Liquid	Dry
1 teaspoon (tsp)	5 millilitres	5 grams
1 tablespoon (tbsp) = 3 tsps.	15 millilitres	15 grams
1 ounce = 2 tsps.	30 millilitres	30 gram
1 cup = 8 ounces	240 millilitres	240 grams
1 pint = 2 cups = 16 ounces	480 millilitres	240 grams
1 quart = 2 pints = 32 ounces	960 millilitres	960 grams
1 gallon = 4 quarts	3.785 litres	
1 pound		454 grams

