

Bridge

Department of Health

This Newsletter aims to promote communication between schools and the Student Health Service of the Department of Health

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Editorial

Design a Healthy Recipe

Nowadays, people live a resourceful and high technology life style. They eat a lot but perform little or no exercise. This kind of lifestyle gives rise to some modern day diseases e.g. Diabetes Mellitus, hypertension or heart diseases.

Chinese people believe ‘Habits are developed at age of three’. Knowing that most of the habits were established when young, Student Health Service has designed some healthy recipes demonstrated by lovely cartoon characters. The recipes can be found and downloaded at our website.

You can find the key for preparing healthy food and how to store food properly in this edition of the Newsletter.

How to live healthily? We have to eat healthily.

How to eat healthily? Lets’ start from our healthy recipes.

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Introduction

A “Balanced diet” is to follow the principle of Food pyramid i.e. eat a variety of food and in appropriate proportions. Balanced diet is very important to students. It helps to provide different nutrients e.g. carbohydrates, protein, fats, vitamins and minerals, to maintain the growth of body tissue, increase the immunity and achieve a desirable body weight.

Most foods available in restaurants and fast food shops could be of high energy and high fat but relatively low in dietary fiber. It might affect our body health if we eat these types of food in long term. If time allows, why not try doing one or two healthy dishes for your family and try them at home. This not only can increase our interest in cookery but also reduce eating the ‘3 high food’ (high fat, high sugar and high sodium) at restaurants.

To design a healthy dish, the following aspects such as: food ingredients, seasonings, cooking methods should be explored.

Food ingredients selection

The first step is to choose ‘3 Low and 1 High’ (i.e. low fat, low sugar, low sodium and high fiber) ingredients. We should put more effort to modify “relatively unhealthy ingredients” to “relatively healthy ingredients” (Figure 1). Together with a low oil cooking method, we can make a nutritious and healthy dish.

Data revealed that colon cancer had become the number two cancer killer in Hong Kong. Adequate dietary fiber intake can help prevent colon cancer. It is well-known that vegetables are a main source of dietary fiber. Apart from green leafy vegetables, mushrooms, squashes and gourds (e.g. cucumbers), tomatoes, eggplants are also members of vegetables. When buying vegetables, we should avoid the preserved vegetables such as preserved turnip, pickled cabbage because their salt (sodium) content is high. Excessive sodium consumption increases the chance of hypertension which in turn affects the health of blood vessels.

Recently it became popular to add fruits as ingredients in recipes to increase their fiber content. Try to choose fresh fruits when we buy fruits. It is because most of the canned fruits are soaked in syrup. The sugar content is relatively high.

Cereals such as rice, bread and noodles are rich in starch. They mainly provide body with energy to meet the daily requirement. Some of the cereals are high fiber food (e.g. wheat bread, red/brown rice, wholemeal biscuits). Consider choosing more high fiber cereals when purchasing them.

We should choose lean portion when buying meat. There is not much difference between fresh meat and frozen meat in their nutritional values. Since processed meat such as sausage, luncheon meat is high in sodium and fat, it should be avoided. In order to extend the shelf-life, “nitrite” might be added to the processed meat as a preservative to reduce the bacterial growth. It seems probable that meat containing “nitrite” will release a carcinogen (nitrosamine) under a high temperature cooking. Long term consumption could increase the risk of cancer.

In order to reduce the intake of saturated fat, it is good to choose skim/low fat dairy products. Dairy products are rich in calcium. Calcium is important to the growth of students, which helps by strengthening their teeth and bones. Compared with milk, the calcium content of common soymilk is relatively low and some may have sugar added. Therefore, we should choose calcium added and low sugar soymilk to reduce the intake of sugar.

Figure 1 Examples of Healthy food ingredients

Ingredients	Change to	Decrease				Increase	
		Total fat	Saturated fat	Sugar	Sodium	Fiber	Calcium
Pork(50%lean)/ Pork(belly)/ Pork(rib)/Pork(feet)	Lean pork	✓	✓				
Burger/Pork patty (50% lean)	Lean pork(minced) /lean beef+oatmeal/ corn/ mixed vegetables / water chestnuts/ mushrooms	✓	✓		✓	✓	

How to design a healthy recipe

Ingredients	Change to	Decrease				Increase	
		Total fat	Saturated fat	Sugar	Sodium	Fiber	Calcium
Fatty beef/ beef(belly)	Lean beef/ ostrich	✓	✓				
Chicken with skin	Chicken without skin	✓	✓				
Deep fried tofu/ deep fried bean curd sheet (stick)	Firm tofu/ soybean milk film/ vegetarian chicken	✓	✓				
Sausage/ luncheon meat/ bacon	Fresh lean pork	✓	✓		✓		
Canned tuna in oil	Canned tuna in water	✓	✓				
White rice	White rice+brown rice/ red rice/ corn/ mixed vegetables/ red beans					✓	
Evaporated milk(whole)/ evaporated filled milk/ whole milk	Low fat milk/ skim milk	✓	✓				
Cheese (whole milk)	Cheese (low fat)	✓	✓				
Cream cheese	Cream cheese (low fat)/ cottage cheese (low fat)	✓	✓				
Sour cream	Plain yogurt (low fat)/ cottage cheese (low fat)+lemon juice	✓	✓				
Soy milk	Fresh fruit e.g. strawberry, orange, kiwi, peach, pineapple etc			✓			✓
Canned fruit/ jam	Fresh fruit e.g. strawberry, orange, kiwi, peach, pineapple etc			✓		✓	
Preserved vegetables e.g. preserved mustard, preserved turnip	Mushroom, onion, water chestnut, mixed vegetables, bell pepper			✓	✓		

Preparation prior cooking

When designing healthy recipes, apart from choosing nutritious ingredients, it is also important to pay attention to the preparation prior to cooking, so as to retain nutrients. For cooking vegetables, it is best to use the 'First wash then chop', 'Cook with little water or oil' principle to retain its vitamins. If we chop the vegetables then wash them, the vitamins will leak and dissolve in water from their cut surface. When boiling vegetables, we should use as less water as possible, and put the vegetables in only when the water is bubbling, to prevent vitamin loss. Whether we boil or stir-fry the vegetables, we should use as less time as possible to avoid them being overcooked and thereby destroy the heat-labile vitamins.

We usually use seasoning to enhance the flavour of our dishes. However, some of the seasoning could be of high fat, high sugar or high sodium. If we do not choose carefully, we may turn our dish into an unhealthy choice. Readers can refer to Figure 2 for healthy way of seasoning and choices.



Health Decoding

Figure 2 Healthy Seasoning Choices

Seasoning	Change to	Reduce				Increase	
		Total Fat	Saturated Fat	Sugar	Sodium	Fiber	Calcium
Salad dressing	Low-fat salad dressing	✓	✓				
	Plain low-fat yoghurt	✓	✓				✓
	Lemon/Lime juice	✓	✓				
Curry Paste	Curry Powder	✓	✓	✓	✓		
Chilly Paste/Chilly Oil	Chilly Powder/Pepper	✓	✓	✓	✓		
Coconut Paste/Juice	Low fat or skimmed milk+ Coconut essence(in slight amount)	✓	✓				
Sweet and Sour Paste	Orange/Strawberry flesh+ Lemon juice/white vinegar	✓		✓	✓	✓	
Black bean paste/ Yellow bean paste	Dried orange peel/Ginger/ Spring Onion/Parsley/ Shitake Mushroom			✓	✓	✓	
The above mentioned sauce/ paste	Various Herbs, e.g. Rosemary, Sage, Lemongrass	✓	✓	✓	✓		
Ketchup	Fresh tomato (cook to puree with some water added)			✓	✓	✓	

Healthy Cooking Method

It is preferred to limit the amount of oil use when designing healthy recipes. According to the Risk Assessment Studies Report No. 28--- Nutrient Values of Fruits and Vegetables by Centre of Food Safety in 2007, using 1 teaspoon and 1 tablespoon oil for boiling vegetables, will increase, on average, the fat content of the vegetables by 1.2 and 3.1 times. If we stir fry the vegetables, the fat content will increase by 19.3 times. Generally speaking, cooking method including deep frying, pan frying, frying with a sauce, spicy salt, braising in oil, will increase food fat content. When designing healthy recipes, try to use blanching instead of braising in oil; use baking, roasting, grilling instead of deep frying and pan frying. Before serving, we can use kitchen tissue towel to absorb the excess oil.

In recent years, some health conscious people may choose oil with healthier composition, such as olive oil or canola oil. Some of them thought they can use as much oil as they can if they are already choosing the healthier option. This is a common myth! Actually, when using the same amount, all fat and oil provide same amount of energy. Every 1 gram of fat/oil provides 9 Kilocalorie (Kcal). For example, 1 tablespoon (i.e.15 grams) of corn/ canola/ olive oil all provide 135 Kcal(15 X 9 Kcal). Using a 2000Kcal daily diet plan as example, the total energy intake from fat should not exceed 30%, equivalent to 60grams of fat (around 4 tablespoons / 12 teaspoons of oil). While in our daily diet, we will probably have the fat-containing meat/ fish/ egg and beans food group, therefore, we suggest limiting oil use in daily cooking to 6 teaspoons/ day (i.e. 2 teaspoons per person per meal).

Oil with healthier composition refers to their different proportion of saturated fat and unsaturated fat (including monounsaturated fat and polyunsaturated fat). Oil/ fat in solid state under room temperature contain more saturated fat, which can increase the low density lipoprotein cholesterol (i.e. bad cholesterol) and in turn affect heart health. Examples

include animal skin or fatty meat, coconut oil, palm oil. Those oils in liquid state under room temperature contain more unsaturated fat, which helps to prevent cardiovascular diseases. Examples include oil from deep sea fish, corn oil, canola oil or olive oil.

Hydrogenated vegetable oil (for example: shortening or margarine processed using hydrogenation) contains higher amount of trans-fat and is a major source of trans-fat in our diet. Trans-fat will increase the bad cholesterol in our body and reduce the high density lipoprotein cholesterol (good cholesterol) and therefore will increase risk of heart disease. The Joint World Health Organization/ Food and Agriculture Organization suggested limiting our trans-fat intake as low as possible----- less than 1% of total energy intake. Using a 2000Kcal diet as example, we should have no more than 2.2g trans-fat daily.

Figure 3 Comparison of Fatty Acid Composition of Various Common Cooking Oils

	% Saturated fats	% Trans fats	% Monounsaturated fats	% Polyunsaturated fats
Canola oil	8		64	28
High oleic sunflower oil	10		86	4
Grapeseed oil	10	17		73
Corn oil	14		29	57
Olive oil	14		75	11
Soybean oil	16		24	60
Peanut oil	18		48	34
Cottonseed oil	27		19	54
Palm oil	51		39	10
Coconut oil			92	6
Margarine, 80% fat, stick	16	16	42	26
Margarine, 80% fat, tub	17	7	44	32
Margarine-butter blend	17	18	36	29
Vegetable shortening	24	34	35	7
Butter			66	4
Lard	41		47	12
Chicken fat	31		47	22

When designing healthy recipes, we can refer to Figure 3 (Comparison of Fatty acid composition of Various Common Cooking oils), and choose the options with less saturated fat and trans-fat and more unsaturated fats. This will be a ‘heart-caring’ action.

Food Handling

No matter how delicious and appealing your dish is, food safety is also a crucial part to consider when it comes to recipe designing and cooking. Ingredients that can be easily perished, such as dairy products, should be stored in refrigerator at or below 4°C as soon as possible after purchasing. Before handling food, we should wash our hands thoroughly under warm water and using soap detergent for 20 seconds. We should use separate chopping boards and knife when cutting raw and cooked ingredients to avoid cross contamination. While cooking, make sure the temperature of the centre part of food is at least 75°C and well-cooked. Food that can perish easily should not be left at room temperature for more than 2 hours and should be kept properly in refrigerator.

Summary Although the choices of ingredients are limited, the creativity is not. To design a healthy recipe, it is not as difficult as we think. We could read more recipes and put more efforts as well as use creativity to improve the recipes such as changing the 3 high ingredients (high fat, high sugar and high sodium) and cooking method. Then, a healthy, delicious dish with appealing presentation and aroma can be made.

Reference

- 1) Hong Kong Cancer Registry(2009), Hong Kong Hospital Authority
- 2) Nutrient Information Inquiry System, Centre of Food Safety
- 3) Trade Guidelines on Reducing Trans Fats in Food, Food and Environmental Hygiene Department
- 4) Food Safety Express, Centre of Food Safety
- 5) Risk Assessment Studies Report No. 28. “Nutrient Values of Fruits and Vegetables”, Centre of Food Safety

Note : Students should be accompanied by guardians or adults to use cooking utensils to avoid accident.



Bridge Blog

My View

on

"Healthy Recipes"

I think the recipes are good to our health and the foods are nutritious. More fruits would be better!

I found the foods are good to our health and nutritious. They are delicious too.

I really want to cook the food but I don't know whether my mum will let me do it.

More varieties of recipes!

The foods are attractive and with a varieties of food groups too. Remember to share them with your family members.

Bon Bonn is cute and the food is healthy!

Chinese people believe that eating well is a blessing. Unhealthy food usually associates with certain chronic illness so we have to eat healthily. Choose food with low fat, low sugar and low salt as well as high fibre. We also have to observe healthy cooking and preparation of food. We also have to store food properly and avoid eating rotten food. If we can eat healthily, we shall live healthily.

Bridge Chats

+852 1234 5678~ Siu Ming
Everybody please help me. I need to submit my homework on food recipe and nutrition. Please give me a hand.

Bridge
Do you have any idea and an outline.

+852 1234 5678~ Siu Ming
The main point is on health and fulfills the criteria of three low one high.

Bridge
Do you need to cook the dishes.

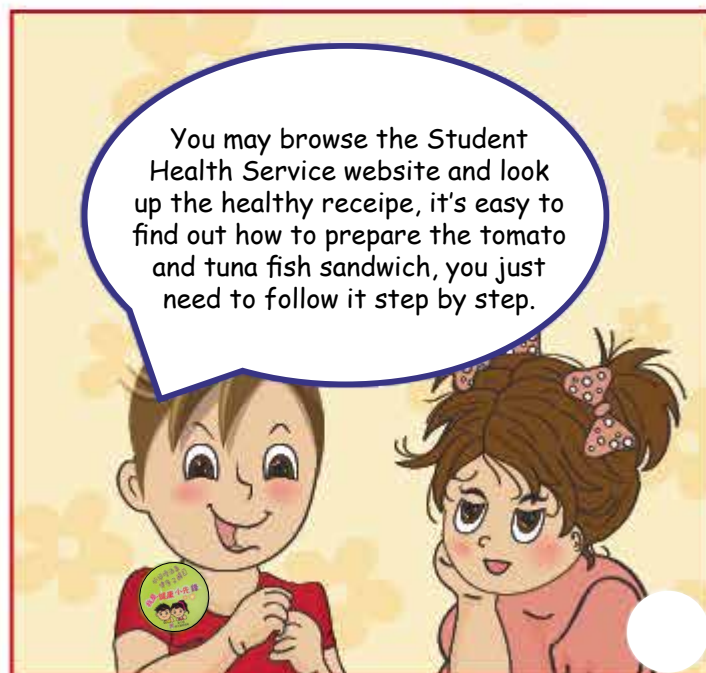
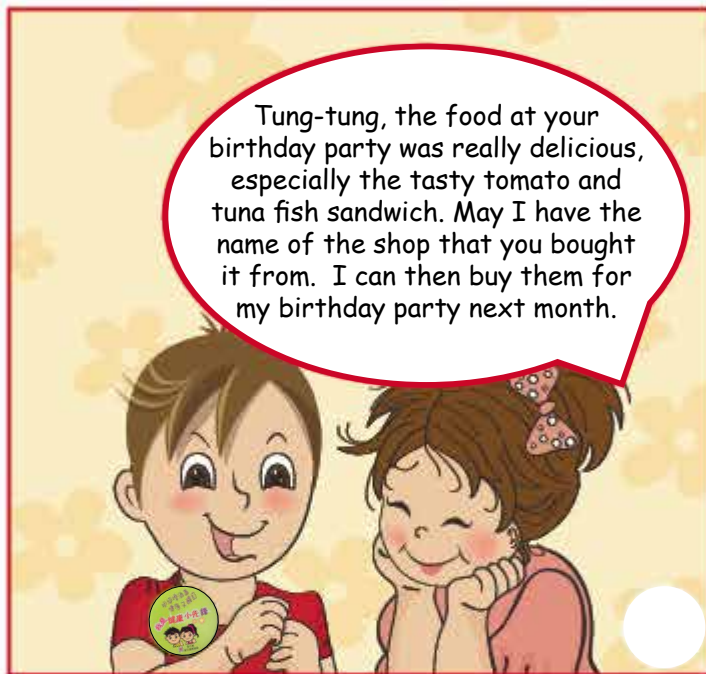
+852 1234 5678~ Siu Ming
It is not necessary. But need to show the ingredients and the cooking procedure. It will be perfect if dietitian's nutrition analysis is added.

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Browse the following website, you will find the information you need.
http://www.studenthealth.gov.hk/english/health_recipe/health_recipe.html

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Got it, I can do my homework now



Junior Health Pioneer



For enquiries of student's health problem, please write to "Health Box"

4/F, Lam Tin Polyclinic, 99 Kai Tin Road, Kwun Tong, Kowloon