

## Healthy Snack” Intervention to Improve the Nutritional Knowledge of University Students

### Supplementary File 01

Week 01



## Dietary Fiber

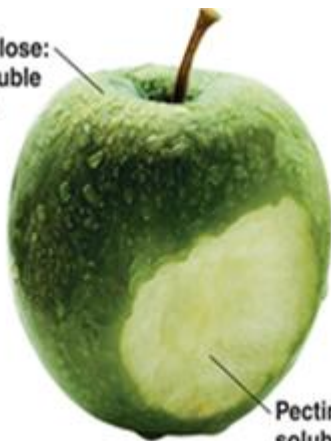
### Fact Sheet

- Dietary fiber is a carbohydrate found in foods.
- Unlike other carbs like starch and sugar, dietary fiber does not provide energy.
- It helps maintain weight.
- It reduces blood sugar and cholesterol levels.
- It helps maintain healthy digestive system.
- *Meat, dairy products and fast foods do not contain dietary fiber.*

### High fiber foods

	Lentils	15.6 g	1 CUP
	Black beans	15.0 g	1 CUP
	Peas	8.8 g	1 CUP
	Raspberries	8.0 g	1 CUP
	Whole-wheat Spaghetti	6.3 g	1 CUP
	Pear	5.5 g	1 MEDIUM
	Bran flakes	5.3 g	3/4 CUP
	Oat bran muffin	5.2 g	1 MEDIUM
	Broccoli	5.1 g	1 CUP
	Apple (with skin)	4.4 g	1 MEDIUM
	Oatmeal (instant, cooked)	4.0 g	1 CUP

Cellulose:  
insoluble  
fiber



Pectin:  
soluble fiber

Dietary fiber can be water-soluble and water-insoluble. They would have different effects on our health.

Insoluble fiber can be found in:

- Whole grains
- Strings of celery
- Hulls of seeds
- Skins of corn kernels

**Make at least half of your grains  
WHOLE GRAIN**

- Average daily intake of 'Dietary fiber' for women should be 25 g
- Average daily intake of 'Dietary Fiber' for men should be 38 g

HUMMUS	
Nutrition Facts	
Serving Size 50 g hummus+ 25 g carrot	
Nutrient	Amount Per Serving
Energy (kcal)	107
Carbohydr. (g)	7,2
Dietary fiber (g)	1,9
Protein (g)	2,4
Fat (g)	7,7
Vit. A (µg)	711
Vit. B12 (µg)	0
Vit. C (mg)	4,5
Iron (mg)	1
Calcium (mg)	50
INGREDIENTS: Chickpeas, lemon juice, tahini, olive oil, carrot, garlic, salt, cumin,	
Production Date: 19/03/17	
Cost per portion: 0,61 TL	

STRAWBERRY BANANA MUFFIN	
Nutrition Facts	
Serving Size 72 g	
Nutrient	Amount Per Serving
Energy (kcal)	117
Carbohydr. (g)	20,4
Dietary fiber (g)	2,8
Protein (g)	3,9
Fat (g)	1,9
Vit. A (µg)	32,2
Vit. B12 (µg)	0,1
Vit. C (mg)	10,7
Iron (mg)	1,5
Calcium (mg)	55
INGREDIENTS: Whole wheat flour, banana, strawberries, whole fat strained yoghurt, egg, honey, vanilla extract, baking powder, cinnamon, nutmeg, iodized salt	
Production Date: 19/03/17	
Cost per portion: 0,75 TL	

Hummus recipe (8 servings)

Chickpeas boiled 250 g  
Lemon juice 60 ml  
Tahini 60 ml  
Garlic 1 clove  
Olive oil 30 ml  
Cumin 5 g

Method:

Mix all the ingredients  
in a blender together and serve.

Strawberry banana muffins recipe (8 servings)

Whole wheat flour 150 g  
Baking powder 10 g  
1 Egg  
Banana 130 g  
Strawberry 105 g  
Yogurt 60 g  
Honey 30 g

Method:

Mix all the ingredients together and  
pour into muffin moulds.  
Bake at 180°C for 30-40 min.

**Do not forget your 5 a day fruits and vegetables!**

SEE YOU NEXT WEEK!

# SODIUM



## Fact Sheet

- Salt (sodium chloride, NaCl) is the main source of sodium.
- Each gram of salt contains 400 mg of sodium.
- Sodium controls fluid balance in our body.
- Excessive salt consumption causes high blood pressure, kidney diseases and nervous symptoms.
- The body can obtain enough sodium from normal diet without the unnecessary additions in the factory or kitchen.

## Sodium content of foods

Food	mg sodium in 30 g
Soy sauce	1715
Sucuk	610
Pretzels	505
Pickles	428
Black olives	262
Feta cheese	231
Potato crisps	149
Popcorn (with salt)	60
Popcorn (without salt)	5
Tomatoes	3
Apples	0

- Your salt intake should be less than 6 g per day (1 teaspoon=tatlı kaşığı)
- Your sodium intake should be less than 2,400 mg per day (1 teaspoon=tatlı kaşığı)

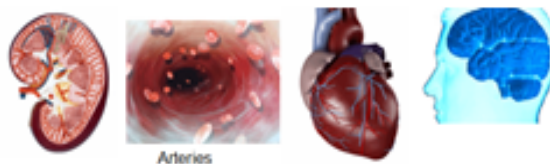
I love you salt,  
but you're  
breaking my  
heart.

Pledge to break up with excess  
sodium and start living healthier!

Take The Pledge

Picture taken from  
<https://sodiumbreakup.heart.org/>

- Hypertension is the most consistent and powerful predictor of stroke (an event in which the blood flow to a part of the brain is cut off)
- High blood pressure is dangerous because it makes your heart work too hard, hardens the walls of your arteries, and can cause the brain to hemorrhage or the kidneys to function poorly or not at all.
- If not controlled, high blood pressure can lead to heart and kidney disease, stroke and blindness.



Arteries

## Reducing salt/sodium intake

- Avoid adding salt directly to food
- Choose everyday staples such as bread and breakfast cereals with care. Compare labels and choose the product with the lowest sodium content
- Reduce or avoid salt in cooking. Try leaving it out of recipes altogether and only add a pinch of salt to vegetable cooking water. Boost flavour by using more herbs, spices, mustard, onion, garlic or lemon juice
- Use fewer processed convenience foods from cans, jars, packets or cartons. Choose reduced- or low- salt versions if available. Use more fresh or unprocessed foods instead
- Avoid highly salted foods, e.g. cheese, crisps and savoury snacks, salted foods, smoked fish, preserved sausage, yeast extracts.

## “Healthy Snack” Intervention to Improve the Nutritional Knowledge of University Students

PUMPKIN & SPINACH MUFFINS	
Nutrition Facts	
Serving Size 75 g	
Nutrient	Amount Per Serving
Energy (kcal)	154
Carbohydr. (g)	9,2
Dietary fiber (g)	3,5
Protein (g)	5,7
Fat (g)	10,6
Vit. A (µg)	157
Vit. B12 (µg)	0,1
Vit. C (mg)	48,1
Iron (mg)	2,1
Calcium (mg)	70,3
INGREDIENTS: Spinach, whole wheat flour, almond flour, pumpkin, curd cheese, milk, pumpkin seed, egg, butter, mustard, olive oil, lemon juice, baking powder	
Production Date: 26/03/17	
Cost per portion: 1,45 TL	

### Pumpkin & spinach muffin recipe

Pumpkin	236 g
Olive oil	15 ml
Almond flour	290 g
Whole wheat flour	300 g
Egg	1
Lemon juice	15 ml
Baking soda	3 g
Mustard	30 g
Smoked paprika	5 g
Butter	30 g
Milk	168 ml
Feta	236 g
Pumpkin seeds	84 g
Spinach	472 g

#### **Method:**

1. Mix all the ingredients together and pour into muffin moulds.
2. Bake at 180°C for 30-40 min.

SEED CRACKERS WITH YOGHURT DIP	
Nutrition Facts	
Serving Size 72 g	
Nutrient	Amount Per Serving
Energy (kcal)	199
Carbohydr. (g)	6.7
Dietary fiber (g)	5.7
Protein (g)	8.6
Fat (g)	16
Vit. A (µg)	26.2
Vit. B12 (µg)	0
Vit. C (mg)	2
Iron (mg)	3.5
Calcium (mg)	181
INGREDIENTS: Water, sunflower seed, chia seed, salt, sesame seed, pumpkin seed, poppy seed, flax seed, poppy seed, strained yoghurt, fresh mint	
Production Date: 26/03/17	
Cost per portion: 1,30 TL	

### Seed crackers with yoghurt dip

Sunflower seeds	220 g
Pumpkin seeds	90 g
Sesame seeds	94 g
Nigella seeds	50 g
Poppy seeds	50 g
Flax seeds	84 g
Chia seeds	100 g
Water	236 g
<b>Yogurt Dip</b>	
Strained yogurt	500 g
Fresh mint	3 g

#### **Method:**

1. Mix all the seeds together with water and let them soak. Bake at 180°C for 40-50 min.
2. Mix yoghurt with chopped mint and serve.

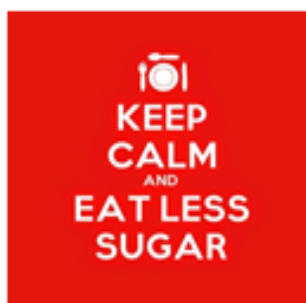
### ➤ NO EXTRA SALT ADDED TO THESE SNACKS



*Please do not forget  
eating 5 portion of fruits and vegetables a day!*

*Fruits and vegetables  
are low in sodium as well!*

Week 03

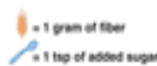


FOOD	Energy (kcal)	Carb. (g)	Dietary fiber (g)	Protein (g)	Fat (g)	Vit. A (mcg)	Vit. B12 (mcg)	Iron (mg)	Calcium (mg)
Sugar	406	100	0	0	0	0	0	0.3	1
Brown sugar	396	97	0	0	0	0	0	0	33
Honey	307	73	0	0.4	0	0	0	1.3	3
Jam	268	63	0.7	0.3	0.1	2	0	0.3	10
Pekmez	278	67	0	1.2	0	0	0	9.2	300
Cola	61	11	0	0	0	0	0	0	4
Diet cola	4	0.1	0	0	0	0	0	0	4

Sugars are found naturally in fruits (fructose) and fluid milk and milk products (lactose)

Be careful about added sugars!

Picture taken from Nutrition and You, 2e, 2012 Pearson Education Inc.



- **Brown sugar:** refined white sugar crystals to which manufacturers have added molasses syrup with natural flavor and color; 91 to 96% pure sucrose
- **Molasses (pekmez):** the thick brown syrup produced during sugar refining. Molasses retains residual sugar and other by-products and a few minerals; blackstrap molasses contains significant amounts of calcium and iron
- **High fructose corn syrup:** Sweet liquid obtained from the breakdown of corn starch

## HOW TO CUT DOWN ON SUGAR

- Use canned, frozen, and dried fruits, as well as fresh fruits. Unsweetened fruit or fruit canned in 100% juice is the better choice because light or heavy syrup adds sugar and calories.
- Select 100% fruit juice when choosing juices.
- Use fruit as snacks, salads, or desserts.
- Eat fewer refined grain products, especially those that are high in calories from solid fats and/or added sugars, such as cakes, cookies, other desserts, and pizza.
- Choose water, fat-free milk, 100% fruit juice, or unsweetened tea or coffee as drinks rather than sugar-sweetened drinks.



Nutrition labels tell you how much sugar a food contains

- High in sugar: 22.5 g or more of total sugar per 100 g
- Low in sugar: 5 g or less of total sugar per 100g

## NO REFINED SUGAR IS USED IN THESE SNACK FOODS!

Beet, Nuts & Dried Fruit Bars	
Nutrition Facts	
Serving Size 70 g	
Nutrient	Amount Per Serving
Energy (kcal)	192 (10 %)
Total Carbohydrate (g)	18,5 (6%)
Dietary fiber (g)	4,3 (19%)
Sugars (g)	14,2
Protein (g)	4,5 (9%)
Fat (g)	11,3 (17%)
Vit. A (µg)	83
Vit. B12 (µg)	0
Vit. C (mg)	4,3 (7%)
Iron (mg)	1,4 (7%)
Calcium (mg)	61 (6%)
INGREDIENTS: Beetroot, wholewheat flour, dried figs, dates, dried apricots, walnuts, almond flour, vegetable oil, water, cocoa powder, flaxseed powder, baking powder, vanilla powder, salt	
*reference intake of an average adult (2000 kcal)	
Production Date: 02/04/17	
Cost per portion: 1,45 TL	

Beet, Nuts and Dried Fruit Bar	
Whole wheat flour	130 g
Baking soda	2 g
Baking powder	3 g
Vanilla powder	3 g
Salt	2 g
Flaxseed powder	13 g
Water	45 ml
Beetroot pure	360 g
Dates	80 g
Dried apricot	80 g
Figs	80 g
Vegetable oil	80 ml
Walnuts	80 g
Almond flour	80 g
Cocoa powder	20 g

Method:  
Combine the flax seed powder with water.  
Puree the cooked beetroots and mix all the ingredients together. Bake at 150°C for 35-40 min.



Strawberry, Banana Smoothie	
Nutrition Facts	
Serving Size 200 ml	
Nutrient	Amount Per Serving
Energy (kcal)	127 (6%)
Total Carbohydrate (g)	23 (8%)
Dietary fiber (g)	3 (12%)
Sugars (g)	20
Protein (g)	4,6 (9 %)
Fat (g)	1,3 (2%)
Vit. A (µg)	30,3
Vit. B12 (µg)	0,3
Vit. C (mg)	55 (91%)
Iron (mg)	2 (11%)
Calcium (mg)	169 (17%)
INGREDIENTS: Strawberries, banana, skimmed milk, skimmed yoghurt, honey, cinnamon	
*reference intake of an average adult (2000 kcal)	
Production Date: 02/04/17	
Cost per portion: 2,00 TL	

Strawberry & Banana Smoothie	
Strawberries	300 g
Banana (1 medium)	150 g
Milk	200 ml
Yoghurt	160 ml
Honey	25 g
Cinnamon	10 g

Method:  
Place all the ingredients in a blender and blend until smooth.



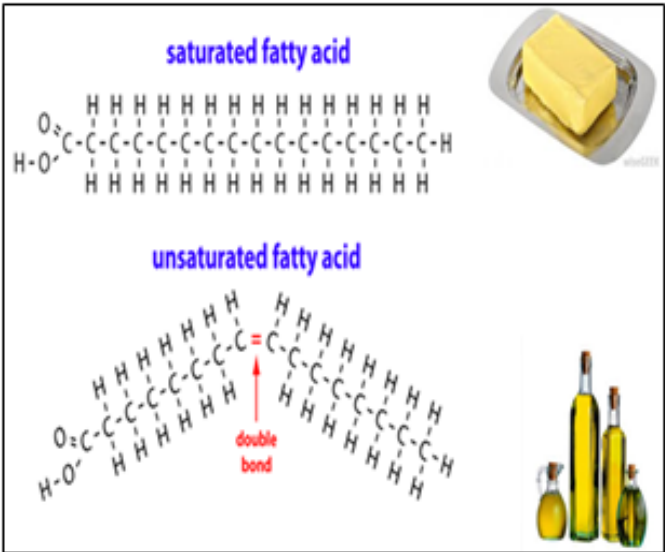
**EATING LOTS OF SUGAR CAN CAUSE TYPE 2 DIABETES and OBESITY !**

*Please do not forget eating 5 portion of fruits and vegetables a day!*

See you after the holiday!

Week 04

# EAT LESS SATURATED FAT and LESS TRANS FAT



### Fats to choose

- Olive oil
- Canola oil
- Vegetable and nut oils
- Margarine, trans fat free
- Cholesterol-lowering margarine, such as Benecol, Promise Activ or Smart Balance
- Nuts, seeds
- Avocados

### Fats to limit

- Butter
- Lard
- Bacon fat
- Gravy
- Cream sauce
- Nondairy creamers
- Hydrogenated margarine and shortening
- Cocoa butter, found in chocolate
- Coconut, palm, cottonseed and palm-kernel oils



Taken from «Heart-healthy diet»



### HOW TO REDUCE FAT IN OUR COOKING?

- Grill, boil, bake, steam or poach foods instead of cooking them with extra fat.
- Use minimal amounts of oil to lubricate pans. Non-stick, re-usable baking papers are useful for lining baking trays.
- Roast potatoes or vegetables by using spray oil.
- Avoid adding extra margarin or butter to vegetables or pasta.
- Remove all visible fat from meat, skin and fat deposits on chicken.
- Take out extra fat from casseroles.
- Use semi-skimmed or skimmed milk instead of full-fat milk and choose low fat dairy products.
- Choose low fat oven-baked chips rather than deepfrying them.

# “Healthy Snack” Intervention to Improve the Nutritional Knowledge of University Students



Trans fats occur when fatty foods are subjected to heat-treatment.

Sun Shine Banana Bread	
Nutrition Facts	
Serving Size 95 g	
Nutrient	Amount per serving
Energy (kcal)	182 (9%)*
Carbohydr. (g)	34 (11%)
Dietary fiber (g)	3,6 (14%)
Protein (g)	6 (12%)
<b>Total fat (g)</b>	<b>2 (3%)</b>
Saturated fat (g)	0,6 (3%)
Monounsaturated fat (g)	0,6
Polysaturated fat (g)	0,5
Cholesterol (mg)	40 (13%)
Vit. A (µg)	41 (3%)
Vit. B12 (µg)	0,2 (3%)
Vit. C (mg)	5 (8%)
Iron (mg)	1,5 (8%)
Calcium (mg)	38 (4%)
INGREDIENTS: Banana, wholewheat flour, white flour, apple, egg, milk, water, vanilla extract, baking soda, baking powder, salt, cinnamon, nutmeg	
*Reference intake of an average adult (2000 kcal)	
Production Date: 16/04/17	
Cost per portion: 0,75 TL	

## Sun Shine Banana Bread-12 servings

Eggs	2
Banana	354 g
Milk	60 ml
Vanilla extract	5 g
White flour	236 g
Wheat flour	236 g
Baking soda	5 g
Baking powder	5 g
Salt	5 g
Cinnamon	3 g
Nutmeg	2 g
<u>Apple sauce</u>	
Apple	150 g
Water	60 ml

### Method:

- Cook apples with water and blend the mixture for apple sauce.
- Mix all the ingredients together and bake at 180°C.

Trans fatty acids raise “bad” LDL and lower “good” HDL (therefore increase the risk of coronary heart disease)

**Where's the Trans Fat?**  
Trans fat can be found in many of the same foods as saturated fat. These can include:

- Coffee creamer
- Crackers, cookies, cakes, frozen pies, and other baked goods
- Fast food
- Frozen pizza
- Ready-to-use frostings
- Refrigerated dough products (such as biscuits and cinnamon rolls)
- Snack foods (such as microwave popcorn)
- Vegetable shortenings and stick margarines

Please do not forget that plant foods do not contain cholesterol.

Snow White Bulgur	
Nutrition Facts	
Serving Size 90 g	
Nutrient	Amount Per Serving
Energy (kcal)	167 (8%)*
Carbohydr. (g)	24 (8%)
Dietary fiber (g)	2,5 (10%)
Protein (g)	3,8 (8%)
<b>Total fat (g)</b>	<b>6 (9%)</b>
Saturated fat (g)	2 (10%)
Monounsaturated fat (g)	1,4
Polysaturated fat (g)	2,4
Cholesterol (mg)	10 (3%)
Vit. A (µg)	24 (2%)
Vit. B12 (µg)	0
Vit. C (mg)	5 (8%)
Iron (mg)	1,4 (8%)
Calcium (mg)	127 (13%)
INGREDIENTS: Strained yoghurt, brown bulgur, dried blueberries, dried mulberries, walnuts, honey, lemon zest	
*Reference intake of an average adult (2000 kcal)	
Production Date: 16/04/17	
Cost per portion: 1,25 TL	

## Snow White Bulgur- 4 servings

Yogurt	200 ml
Brown bulgur (fine)	50 g
Dried white mulberries	40 g
Honey	20 g
Lemon zest	5 g
Dried blueberries	40 g
Walnuts	20 g

### Method:

- Soak bulgur in hot water.
- Mix all ingredients together and serve.

There is no additional fat or oil in these snack foods.

Please do not forget eating 5 portion of fruits and vegetables a day!

Thank you for participating in our project.