

State of taking medicine during last 2 weeks

		40-49yr		50-59yr		60-69yr		70-79yr		Total	
		N	%	N	%	N	%	N	%	N	%
Corrective, tinction	Total	2	0.3	0	0	0	0	0	0	2	0.1
Emulsifier	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Other dispensing drug	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
X-ray contrast medium	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Reagent for functional examination	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Other test	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Antiseptic	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Pesticide for prevention of epidemics	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Insecticide	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0

(CONTINUED)

State of taking medicine during last 2 weeks

		40-49yr		50-59yr		60-69yr		70-79yr		Total	
		N	%	N	%	N	%	N	%	N	%
Insecticide	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Rodenticide	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Other drug used for public health	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Reagent for general examination	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Reagent for blood analysis	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Reagent for biochemical analysis	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Reagent for immunologic test	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Reagent for microbiological examination	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Reagent for pathological examination	Male	0	0	0	0	0	0	0	0	0	0

(CONTINUED)

State of taking medicine during last 2 weeks

		40-49yr		50-59yr		60-69yr		70-79yr		Total	
		N	%	N	%	N	%	N	%	N	%
Reagent for pathological examination	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Radiopharmaceutical for diagnosis	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Other reagent for diagnosis	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Strap	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Other drug not for treatment	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Opiate alkaloid agent	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Coca alkaloid agent	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Other alkaloid agent	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Synthetic narcotic	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0

(CONTINUED)

State of taking medicine during last 2 weeks

		40-49yr		50-59yr		60-69yr		70-79yr		Total	
		N	%	N	%	N	%	N	%	N	%
Synthetic narcotic	Total	0	0	0	0	0	0	0	0	0	0
Unclassifiable drug	Male	4	1.4	10	3.5	11	3.9	20	7.1	45	4.0
	Female	10	3.5	4	1.4	13	4.6	18	6.4	45	4.0
	Total	14	2.4	14	2.5	24	4.2	38	6.7	90	4.0
No use of drug	Male	132	45.5	108	38.3	81	28.6	50	17.7	371	32.6
	Female	121	42.9	86	31.0	61	21.4	39	13.8	307	27.3
	Total	253	44.2	194	34.7	142	25.0	89	15.8	678	29.9
Total	Male	290	100.0	282	100.0	283	100.0	283	100.0	1138	100.0
	Female	282	100.0	277	100.0	285	100.0	282	100.0	1126	100.0
	Total	572	100.0	559	100.0	568	100.0	565	100.0	2264	100.0

IV. Nutritional Examinations

IV. Nutritional Examinations

Foods and nutrition intakes of the subjects were assessed by the three-consecutive-day weighing dietary records. This method was that foods as raw materials were weighed with scales separately before they were cooked, and we asked subjects to take the photos before and after eating foods using disposable camera. And the dietary records were checked and coded by nutritionists. Then the average of three days food and nutrition intakes were calculated according to the 4th edition Standard Tables of Foods Consumption in Japan edited by the Science and Technology Agency. Moreover we used the substituted food composition table for Japanese foods developed by NCC for the assessment of fatty acid intakes (Ref. Sasaki S, Kobayashi M, Tsugane S. Development of substituted fatty acid food composition table for the use in nutritional epidemiologic studies for Japanese population: its methodological backgrounds and the evaluation. *J Epidemiol*, 1999; 9: 190-207).

Food intakes are also assessed by a food frequency and dietary habit questionnaire. (Ref: Shimizu H, Ohwaki A, Kurisu Y, Takatsuka N, Ido M, Kawakami N, Nagata C, Inaba S: Validity and reproducibility of a quantitative food frequency questionnaire for a cohort study in Japan. *Jpn J Clin Oncol* 29: 38-44, 1999). The average of amounts and frequencies of 166 representative foods eaten during the previous year were written. A dietician interviewed the subjects to confirm the amounts and frequencies

Three days dietary record (3DR)

1) Food intake

- Cereals
- Potatoes and starches
- Sugars and sweeteners
- Confectioneries
- Fats and oils
- Nuts and seeds
- Pulses
- Fishes and shellfishes
- Meats
- Eggs

Milks
Vegetables
Fruits
Fungi
Algae
Beverages
Seasonings and spices
Prepared foods

2) Nutrition intake

Energy
Water
Protein
Lipid
Carbohydrate
Non-fibrous carbohydrate
Fibrous carbohydrate
Ash
Calcium
Phosphorus
Iron
Sodium
Potassium
Retinol
Carotene
Retinol potency
Vitamin B1
Vitamin B2
Niacin
Vitamin C
Vitamin D
Vitamin E
Salt
Cholesterol
Total dietary fiber
Water soluble fiber

Water insoluble fiber
Vitamin K
Vitamin B6
Vitamin B12
Magnesium
Zinc
Copper
Nitrogen
Isoleucine
Leucine
Lysine
Methionine
Cystine
Sulfur-containing amino acids
Phenylalanine
Tyrosine
Aromatic amino acids
Threonine
Tryptophan
Valine
Histidine
Alanine
Aspartic acid
Glutamic acid
Glycine
Proline
Serine
Total fatty acid
Saturated fatty acid
Monounsaturated fatty acid
Polyunsaturated fatty acid
Unsaturated fatty acid
n-6 fatty acid
n-3 fatty acid
Butyric acid

Hexanoic acid
Octanoic acid
Decanoic acid
Decenoic acid
Lauric acid
Myristic acid
Myristoleic acid
Pentadecanoic acid
Pentadecenoic acid
Palmitic acid
Palmitoleic acid
Hexadecatrienoic acid
Heptadecanoic acid
Heptadecenoic acid
Stearic acid
Oleic acid
Linoleic acid
Linolenic acid
 γ -Linolenic acid
Octadecatetraenic acid
Arachidic acid
Eicosenoic acid
Eicosadienoic acid
Eicosatrienoic acid
Eicosatetraenoic acid
Arachidonic acid
Eicosapentaenoic acid
Behenic acid
Docosenoic acid
Docosadienoic acid
Docosapentaenoic acid (n-3)
Docosapentaenoic acid (n-6)
Docosahexaenoic acid
Lignoceric acid
Tetracosenoic acid
Alcohol

Food frequency questionnaire

1) Frequency of food intake

Miso soup (miso-shiru)
Clear soup (sumashi-jiru)
Egg custard (chawanmushi)
Japanese chowder (kennchin, kasu-jiru)
Thick or creamy soup
Thin soup
Noodle topped tempura (tempura soba, tempura udon)
Noodle served on bamboo work plate (zaru soba, zaru udon)
Other dishes of noodle
Chinese noodle, noodle with won-tun
Fried or steamed noodles (yakisoba)
Spaghetti with tomato sauce and meat or cheese
Spaghetti with seafood
Macaroni gratin
Macaroni salad
Instant Chinese noodle
Cup noodle
Beef mixed with vegetables
Pork mixed with vegetables
Chicken mixed with vegetables
Fish mixed with vegetables
Fried vegetables
Hamburger steak
Meat dumpling (niku-danngo)
Shao-mai
Fried or steamed dumpling stuffed with minced pork (gyoza)
Pizza
Grilled meat
Beefsteak
Porksteak
Pork cutlet (ton-katsu)

Ham or sausages
Bacon
Roasted pork
Liver (beef, pork and chicken)
Grilled or boiled intestine (horumon-yaki, dote-ni)
Fried chicken (deep-fried chicken, kara-age)
Roast chicken, chicken teri-yaki, yakitori
Grilled fish
Fish boiled with soy and sugar
Dried fish
Raw fish (sashimi)
Squid, octopus
Canned fish
Boiled fish paste (hanpen, kamaboko, chikuwa)
Shellfish boiled down in soy (tsukudani)
Deep-fried fish
Deep fried prawn, tempura of shrimp
Shellfish (include oyster)
Rice (include rice ball)
Half-cleaned rice, unpolished rice
Sushi (nigiri-zushi)
Sushi (chirashi-zushi, maki-zushi and inari-zushi)
Boiled rice mixed with fish, chicken, vegetable and mushroom
Chinese dish of fried rice
Rice boiled together with red beans (seki-han)
Rice gruel
Rice cake (mochi)
Sweet potato
Taro (sato-imo)
Yam (yama-imo, naga-imo)
Fried potatoes
Baked or boiled potatoes
Potato salad
Cornflakes
Corn
Eggs (such as boiled, fried, scrambled, etc)

Tofu
Steamed egg custard (tamago-dofu)
Fried been curd (abura-age)
Dried been curd (kouya-dofu)
Fried been curd (ganmodoki or nama-age)
Fermented soy beans
Cucumber
Tomato
Lettuce
Celery
Broccoli
Cauliflower
Cabbage
Green vegetable (such as green peppers, spinach, etc)
Carrot
Pumpkin
Chinese cabbage (haksai)
Edible wild plants (sansai)
Japanese radish (daikon)
Other vegetables (such as eggplant, onion etc.)
Green soybeans, green peas (soramame, edamame)
Other beans and peas
Mushroom
Seaweeds
Tangle or laver boiled down in soy
Orange
Mandarin orange
Grapefruit
Peach
Melon
Water melon
Apple
Pear
Banana
Persimmon (include dried persimmon)
Strawberries

Kiwi fruit
Grapefruit or orange juices or drinks
Tomato or vegetable juices
Other fruits juices and drinks
White bread
Whole wheat or rye breads
Rolles, french rolles
Doughnuts (agepan)
Sweet rolles
Pancakes, waffles and french toast
Butter
Margarine
Peanut butter
Jam, honey, sirop
Whole milk (as beverage or added to cereal)
Low fat milk or yogult (as beverage or added to cereal)
Skim milk (as beverage or added to cereal)
Cocoa
Lactic acid beverage
Soybean milk
Cheese
Ice cream
Ice milk or sherbet
Cookies
Cake
Apple or other fruit pies
Pudding
Chocolate
Japanese style confectioneries (man-ju, yo-kan)
Cracker, Rice cracker, Snack cake (arare, sen-bei)
Rice dumpling (dango)
Nuts (peanuts, other nuts)
Potato, corn or other chips
Pop corn
Pickled Japanese radish (takuan)
Pickled Chinese cabbage (hakusai-duke, mizuna-duke)

Pickled vegetables by miso
Pickled vegetables by soy-sauce
Pickled cucumber or eggplant (itiya-duke)
Other pickles
Salt at the table
Soy sauce at the table
Specific miso to Hida area (houba-miso)
Vinegar at the table (ponzu)
Worcester sauce at the table
Dressing at the table
Mayonnaise at the table
Diet dressing at the table
Japanese sake
Japanese distilled alcoholic beverages (Shochu)
Regular or draft beer
Light beer
Wine
Hard liquor (such as whisky, brandy, gin, vodka, rum, cocktails, etc.)
Regular coffee
Decaffeinated coffee
Black tea
Green tea
Oolong tea
Carbonated beverages (such as cola, soda, etc.)
Isotonic drink

2) Frequency of supplement intake

Mixed vitamins
Prescribed drug including vitamins and minerals
Cod liver oil
Vitamin A
Beta carotin
Vitamin C
Calcium
Vitamin E

3) Monthly amount of food intake

- Miso soup (miso-shiru) - cup/month
- Clear soup (sumashi-jiru) - cup/month
- Egg custard (chawanmushi) - cup/month
- Japanese chowder (kennchin, kasu-jiru) - cup/month
- Thick or creamy soup - cup/month
- Thin soup - cup/month
- Noodle topped tempura (tempura soba, tempura udon) - bowl/month
- Noodle served on bamboo work plate (zaru soba, zaru udon) - bowl/month
- Other dishes of noodle - bowl/month
- Chinese noodle, noodle with won-tun - bowl/month
- Fried or steamed noodles (yakisoba) - plate/month
- Spaghetti with tomato sauce and meat or cheese - plate/month
- Spaghetti with seafood - plate/month
- Macaroni gratin - plate/month
- Macaroni salada - plate/month
- Instant Chinese noodle - bag/month
- Cup noodle - cup/month
- Beef mixed with vegetables - plate/month
- Pork mixed with vegetables - plate/month
- Chicken mixed with vegetables - plate/month
- Fish mixed with vegetables - plate/month
- Fried vegetables - plate/month
- Hamburger steak - plate/month
- Meat dumpling (niku-danngo) - piece/month
- Shao-mai - piece/month
- Fried or steamed dumpling stuffed with minced pork (gyoza) - piece/month
- Pizza - slice/month
- Grilled meat - plate/month
- Beefsteak - plate/month
- Porksteak - plate/month
- Pork cutlet (ton-katsu) - plate/month
- Ham or sausages - plate/month
- Bacon - plate/month
- Rorsted pork - plate/month
- Liver (beef,pork and chicken) - plate/month

Grilled or boiled intestin (horumon-yaki, dote-ni) - plate/month
 Fried chicken (deep-fried chicken, kara-age) - plate/month
 Roast chicken, chicken teri-yaki, yakitori - plate/month
 Grilled fish - plate/month
 Fish boiled with soy and sugar - plate/month
 Dried fish - plate/month
 Raw fish (sashimi) - slice/month
 Squid, octopus - plate/month
 Canned fish - plate/month
 Boiled fish paste (hanpen, kamaboko, chikuwa) - plate/month
 Shellfish boiled down in soy (tsukudani) - table spoon/month
 Deep fried fish - slice/month
 Deep fried prawn, tempura of shrimp - plate/month
 Shellfish (include oyster) - cup/month
 Rice (include rice ball) - cup/month
 Half-cleaned rice, unpolished rice - cup/month
 Sushi (nigiri-zushi) - piece/month
 Sushi (chirashi-zushi, maki-zushi and inari-zushi) - plate/month
 Boiled rice mixed with fish, chicken, vegetable and mushroom - cup/month
 Chinese dish of fried rice - plate/month
 Rice boiled together with red beans (seki-han) - cup/month
 Rice gruel - cup/month
 Rice cake (mochi) - piece/month
 Sweet potato - piece/month
 Taro (sato-imo) - piece/month
 Yam (yama-imo, naga-imo) - plate/month
 Fried potatoes - plate/month
 Baked or boiled potatoes - piece/month
 Potato salad - plate/month
 Cornflakes - plate/month
 Corn - corn/month
 Eggs (such as boiled, fried, scrambled, etc) - egg/month
 Tofu - piece/month
 Steamed egg custard (tamago-dofu) - piece/month
 Fried bean curd (abura-age) - piece/month
 Dried bean curd (kouya-dofu) - slice/month

Fried bean curd (ganmodoki or nama-age) - piece/month
 Fermented soy beans - portion/month
 Cucumber - stick/month
 Tomato - tomato/month
 Lettuce - plate/month
 Celery - plate/month
 Broccoli - plate/month
 Cauliflower - plate/month
 Cabbage - plate/month
 Green vegetable (such as green peppers, spinach, etc) - plate/month
 Carrot - plate/month
 Pumpkin - plate/month
 Chinese cabbage (haksai) - plate/month
 Edible wild plants (sansai) - plate/month
 Japanese radish (daikon) - plate/month
 Other vegetables (such as eggplant, onion etc.) - plate/month
 Green soybeans, green peas (soramame, edamame) - plate/month
 Other beans and peas - plate/month
 Mushroom (such as shiitake, shimeji, hacklberry, matsutake, mushroom etc.)
 - plate/month
 Seaweeds (such as wakameseaweed, tangle, brown algae, etc.) - plate/month
 Tangle or laver boiled down in soy - tea spoon/month
 Orange - orange/month
 Mandarin orange - mandarin orange/month
 Grapefruit - grapefruit/month
 Peach - peach/month
 Melon - slice/month
 Water melon - slice/month
 Apple - apple/month
 Pear - pear/month
 Banana - banana/month
 Persimmon (include dried persimmon) - persimmon/month
 Strawberries - strawberry/month
 Kiwi fruit - slice/month
 Grapefruit or orange juices or drinks - cup/month
 Tomato or vegetable juices - cup/month

Other fruits juices and drinks - cup/month
White bread - slice/month
Whole wheat or rye breads - slice/month
Rolles, french rolles - piece/month
Doughnuts (agepan) - piece/month
Sweet rolles - piece/month
Pancakes, waffles and french toast - slice/month
Whole milk (as beverage or added to cereal) - cup/month
Low fat milk or yogult (as beverage or added to cereal) - cup/month
Skim milk (as beverage or added to cereal) - cup/month
Cocoa - cup/month
Lactic acid beverage - cup/month
Soybean milk - cup/month
Cheese - slice/month
Ice cream - cup/month
Ice milk or sherbet - cup/month
Cookies- piece/month
Cake - piece/month
Apple or other fruit pies - slice/month
Pudding - pudding/month
Chocolate - peace/month
Japanese style confectioneries (man-ju, yo-kan) - piece/month
Cracker, Rice cracker, Snack cake (arare, sen-bei) - piece/month
Rice dumpling (dango) - stick/month
Nuts (peanuts, other nuts) - cup/month
Potato, corn or other chips - cup/month
Pop corn - cup/month
Japanese sake - ethanol ml/month
Japanese distilled alcoholic beverages (Shochu) - ethanol ml/month
Regular or draft beer - ethanolml/month
Light beer - ethanol ml/month
Wine - ethanol ml/month
Hard liquor - ethanol ml/month

4) Daily nutrition intake

Energy - kcal/day
Water - ml/day
Animal protein - g/day
Vegetable protein - g/day
Total protein - g/day
Animal fat - g/day
Fish fat - g/day
Vegetable fat - g/day
Total fat - g/day
Carbohydrate- g/day
Crude fiber - g/day
Ash - g/day
Calcium - mg/day
Phosphorus - mg/day
Iron - mg/day
Sodium - mg/day
Potadium - mg/day
Retinol - μ g/day
Carotene - μ g/day
Vitamin A - IU/day
Vitamin B1 - mg/day
Vitamin B2 - mg/day
Niacin - mg/day
Vitamin C - mg/day
Vitamin D - IU/day
Vitamin E - mg/day
Salt - g/day
Cholesterol - mg/day
Alcohol (Ethanol) - ml/day

Three days dietary record (3DR)

1) Food intake (3DR)

Cereals (g)

	40-49yr			50-59yr			60-69yr			70-79yr			total		
	mean	SD	n	mean	SD	n									
Male	277.0	74.0	267	273.8	70.6	272	278.0	73.4	273	252.9	79.0	268	270.4	74.9	1080
Female	213.4	53.3	264	209.0	53.5	272	206.6	55.5	276	212.3	68.5	273	210.3	58.1	1085
total	245.4	71.9	531	241.4	70.5	544	242.1	74.1	549	232.4	76.6	541	240.3	73.4	2165

Potatoes and starches (g)

	40-49yr			50-59yr			60-69yr			70-79yr			total		
	mean	SD	n	mean	SD	n									
Male	63.8	45.6	261	67.1	44.5	278	69.2	49.4	273	71.0	49.6	268	67.8	47.3	1080
Female	58.2	39.2	261	68.8	44.3	277	66.7	46.2	274	70.1	54.9	273	66.1	46.7	1085
total	61.0	42.6	522	68.0	44.3	555	67.9	47.8	547	70.5	52.3	541	66.9	47.0	2165

Sugars and sweeteners (g)

	40-49yr			50-59yr			60-69yr			70-79yr			total		
	mean	SD	n	mean	SD	n	mean	SD	n	mean	SD	n	mean	SD	n
Male	11.1	8.3	261	11.3	8.6	278	11.9	13.0	273	10.5	8.4	268	11.2	9.8	1080
Female	10.9	8.1	261	11.7	8.7	277	10.8	7.8	274	10.9	7.6	273	11.1	8.0	1085
total	11.0	8.2	522	11.5	8.6	555	11.3	10.7	547	10.7	8.0	541	11.1	9.0	2165

Confectioneries (g)

	40-49yr			50-59yr			60-69yr			70-79yr			total		
	mean	SD	n	mean	SD	n									
Male	50.6	52.2	261	43.7	45.4	278	45.7	51.4	273	47.9	44.9	268	46.9	48.6	1080
Female	64.3	43.3	261	59.2	46.8	277	54.1	46.9	274	51.3	41.5	273	57.1	44.9	1085
total	57.5	48.4	522	51.4	46.7	555	49.9	49.3	547	49.6	43.2	541	52.0	47.0	2165