

## ESTIMATES OF CONSUMPTION OF CONFECTIONERY PRODUCTS IN THE AVERAGE DAILY DIETS OF THE POPULATION IN THE WINTER-SPRING SEASON

**Fayziboev Pirmamat Normamatovich**

Samarkand State Medical University

Head of the Department of Hygiene, MD, Associate Professor

**Kurbanov Shakhboz Shukhratovich**

Second-year Master's student, Department of Hygiene

**Shabanova Munira Eshnazar kizi**

**Saibnazarov Azizbek Talat ogli**

**Javharov Shohrux Juraqul o'g'li**

Clinical residents of the Department of Hygiene

**Faiziboev Bekzod Pirmamat ogli**

Student of Alfraganus University

(Based on the example of the Samarkand region, the city of Tashkent and medical college students)

**Abstract:** At present, there is no doubt about the principle that nutrition should support physical, mental, and social well-being, contribute to disease prevention, and help improve the health and quality of life of people, including those suffering from various illnesses. Naturally, functional foods are valuable only if they are part of a balanced diet.

**Keywords:** nutrition, disease prevention, products, confectionery.

## ОЦЕНКА ПОТРЕБЛЕНИЯ КОНДИТЕРСКИХ ИЗДЕЛИЙ В СОСТАВЕ СРЕДНЕСУТОЧНОГО РАЦИОНА НАСЕЛЕНИЯ В ЗИМНЕ-ВЕСЕННИЙ ПЕРИОД

**Файзибоев Пирмамат Нормамаатович**

Самаркандский государственный медицинский университет

Заведующий кафедрой гигиены, д.м.н., доцент

**Курбанов Шахбоз Шухратович**

Магистрант второго курса, кафедра гигиены

**Шабанова Мунира Эшназар кызы**

**Саибназаров Азизбек Талат угли**

**Джавхаров Шохрух Журакул угли**

Клинические ординаторы кафедры гигиены

**Файзибоев Бекзод Пирмагат оглы**

Студент Университета Альфраганус

(На примере Самаркандской области, города Ташкента и студентов медицинского колледжа)

**Аннотация:** На данный момент не вызывает сомнения постулат о том, что питание должно поддерживать состояние физического, психического и социального благополучия и способствовать профилактике заболеваний, а также способствовать улучшению здоровья и качества жизни людей, в том числе страдающих от различных заболеваний. Естественно, что функциональные продукты имеют ценность только в том случае, если они являются частью сбалансированной диеты.

**Ключевые слова:** питание, профилактика заболеваний, продукты, кондитерские изделия.

**Relevance of the topic:** The production and use of confectionery products in the world is carried out for the purpose of hygienic justification, a series of scientific studies using the international HACCP system.

By changing the content and ratio of certain food components supplied with functional foods, it is possible to regulate many metabolic processes occurring in organs and tissues through direct or indirect effects on cellular and nuclear receptors, hormonal-enzyme systems, processes of absorption and excretion, thereby catalyzing or inhibiting the corresponding metabolic processes, the microbial population of the gastrointestinal tract, which should lead to a positive modification of the physiological functions of the body, reducing the effect of damaging factors, restoring the balance between the environment and the internal environment of the body, reducing the manifestation of symptoms of maladjustment.

Modern nutritionists have many effective ways to restore physical disability and mental activity. These include an appropriate diet and balanced nutrition in general. From a scientific point of view, it is necessary to adhere to healthy eating rules. At the same time, nutritionists note the special role of confectionery products, both from the point of view of the principles of healthy nutrition and food safety.

Based on these objectives, it is advisable to conduct research on the hygienic justification of the international HACCP system for the production and use of confectionery products.

**Purpose of the work:** Assess the actual consumption of various types of confectionery products in different regions of the Republic among the urban and rural population by season. Analysis of the nutritional and biological value of the main types of confectionery products produced by industrial and artisanal methods and development of risk assessment criteria at control critical points in the production and sale of confectionery products according to microbiological, chemical, sanitary-hygienic and radiological indicators.

**Results obtained:** Before conducting the research, explanatory work was carried out among the respondents about the need to take into account all consumed products, including street food.

Confectionery products are multi-component food products, ready-to-eat, having a certain specified form, obtained as a result of technological processing of the main types of raw materials - sugar and (or) flour, and (or) fats, and (or) cocoa products, with the addition or without added food ingredients, food additives or flavorings.

Depending on the ingredients used, all types of confectionery products are divided into three main groups: flour, sugar and chocolate.

Actual nutrition was studied by the method of frequency and 24-hour recall, recommended by WHO for epidemiological studies [60,61] with adaptation for Uzbekistan of questionnaires developed by us and approved by the Ministry of Health [62] in 140 households of Tashkent, Samarkand region, 210 student volunteers of the medical college Tashkent.

## Assessment of food consumption in the average daily diets of the adult population in the studied regions, in the winter-spring season, g/day, $M \pm m$

Table 1.

Product Name	Samarkand region		Tashkent	College students in Tashkent	Rational norms	P
	city	village				
Legumes	15,0±0,3	18, 0±0,7	10, 0±0,3	5,0±0,2	15,0	<0,01
Wheat flour	60,0±2,5	68,0±3,3	60,0±1,4	40,0±1,6	20,0	<0,01
Rice	60,0±2,8	70,0±2,9	42,8±1,6	34,0±1,6	50,0	<0,01
Cereals (without rice)	9,1±1,3	7,2±150	12,4±1,4	10,0±1,1	20,0	<0,01

Wheat bread	375,0±16,0	450,0±17,5	324,2±14,6	225,0±13,6	250,0	<0,01
Rye bread	15,5±1,2	12,2±1,1	45,2±1,5	33,2±1,2	80,0	<0,01
Bread made from other grains	50,4±1,5	20,0±1,1	35,0±1,5	23,2±1,2	absent	
Pasta	40,0±4,1	42,0±2,0	44,4±1,2	43,0±1,0	30,0	<0,01
Potato	120,0±9,5	132,0±9,8	165,0±7,2	143,0±1,6	200,0	<0,01
Cabbage	32,0±1,3	44,0±1,7	54,2±1,6	23,2±1,1	50,0	<0,01
cucumbers	5,5±0,5	6,8±0,8	12,2±1,1	5,0±0,6	50,0	<0,01
Tomatoes	6,5±0,8	13,0±1,5	14,2±1,3	3,5±0,6	50,0	<0,01
Beet	3,0±0,3	4,0±0,8	6,5±0,7	2,5±0,2	30,0	<0,01
Carrot	22,5±1,8	25,0±1,5	24,2±1,4	63,0±1,6	50,0	<0,01
Onion	14,4±1,1	16,0±1,2	18,5±1,1	12,0±1,0	40,0	<0,01
Other vegetables	5,5±0,5	8,0±0,8	12,2±1,1	4,0±0,6	60,0	<0,01
Total vegetables	89,4±2,2	116,8±3,8	240,3±5,5	113,2±3,6	200,0	<0,01
Melons	12,0±1,1	14,0±1,2	34,2±1,5	23,0±1,2	50,0	<0,01
Pumpkin	20,0±1,2	23,0±1,3	14,2±1,0	6,0±1,0	30,0	<0,01
Fresh fruits and berries	25±1,2	20,0±1,8	54,2±1,4	33,0±1,2	250,0	<0,01
dried	10,0±0,5	16,0±0,8	4,2±0,4	6,0±0,6	20,0	<0,01
Fresh grapes	15,5±1,0	45,0±1,8	20,0±1,3	12,0±1,0	30,0	<0,01
Citrus	2,5±0,5	3,0±0,8	5,2±0,4	5,0±0,6	15,0	<0,01
Beef	30,0±1,5	32,0±1,0	34,2±1,3	23,0±1,6	60,0	<0,01
Mutton	52,0±1,4	33,0±1,0	24,2±1,4	21,0±1,2	30,0	<0,01

Rabbit meat	1,5±0,5	6,0±0,8	2,2±0,4	000	25,0	<0,01
offal	11,5±0,5	8,0±0,8	12,2±0,4	6,1±0,4	absent	
Bird house.	45,1±1,2	53,0±1,3	44,4±1,5	33,0±1,2	70,0	<0,01
Fresh fish	31,0±0,5	24,0±0,7	20,0±1,4	5,0±0,6	35,0	<0,01
Fish products	16,0±0,5	6,0±0,6	22,0±1,5	4,0±0,4	30,0	<0,01
Whole milk	80,0±1,4	76,0±2,2	120,0±1,5	63,0±1,3	400,0	<0,01
Sour cream, cream	4,6±0,4	8,0±1,1	12,4±1,2	8,5±0,6	15,0	<0,01
Animal oil	5,0±0,5	7,4±0,8	7,0±0,6	6,0±0,5	30,0	<0,01
Cottage cheese	14,5±1,1	15,0±1,0	20,1±1,1	13,0±1,0	30,0	<0,01
Cheese, feta cheese	4,0±0,4	5,6±0,7	12,4±1,2	7,6±0,6	20,0	<0,01
Eggs (pieces)	0,5±0,1	0,6±0,08	0,5±0,04	0,5±0,06	1,0	<0,01
Sugar	25,0±0,4	20,0±0,8	33,0±1,6	10,0±1,0	30,0	<0,01
chocolate	2,0±0,05	1,0±0,07	4,0±0,4	5,0±0,5	absent	
Caramel candy	1,5±0,4	2,0±0,06	5,0±0,4	2,0±0,06	absent	
iris	1,0±0,05	2,0±0,08	2,0±0,4	2,0±0,6	absent	
dragee	1,5±0,05	1,2±0,07	2,0±0,4	2,0±0,06	absent	
Oriental sweets (category includes: halva, Turkish delight)	2,5±0,05	2,0±0,07	2,5±0,4	2,0±0,06	absent	
marmalade	2,0±0,04	1,5±0,07	2,8±0,4	2,0±0,06	absent	
navat	21,0±0,4	32,0±0,6	33,0±1,0	5,0±0,4	absent	

Flour confectionery products (cakes, pastries)	20,0±0,5	25,0±0,5	10,0±0,6	20,0±0,6	absent	
Sugar with confectionery count	62,0±1,5	68,0±1,7	83,0±2,0	23,7±1,2	30,0	<0,01
Honey	12,0±0,3	8,8±0,2	5,0±0,4	2,0±0,2	20,0	<0,01
Margarine	10,0±0,5	9,0±0,7	12,0±1,2	4,0±0,6	5,0	<0,01
Vegetable oil	38,0±2,0	42,0±3,0	33,0±2,4	25,0±1,6	25,0	<0,01
Iodine salt.	8,5±1,5	10,0±1,7	8,8±1,4	8,0±1,6	5,0	<0,01
tea	4,4±0,5	5,0±0,5	6,0±0,6	4,0±0,5	2,0	<0,01
coffee	1,5±0,05	1,0±0,07	1,5±0,04	2,0±0,06	2,0	≥0,01
Tomato paste	1,0±0,5	1,2±0,6	2,0±0,4	2,0±0,3	3,0	≥0,01
Spices	1,5±0,05	2,0±0,07	2,0±0,04	2,0±0,06	2,0	≥0,01
Calorie kcal.	2860,4±15	3172,5±16,8	2841,1±14	2013,70±16,0	3104,4	<0,01
Squirrels	107,9±8,5	106,1±6,6	105,7±7,4	67,8±5,0	118	<0,01
Fats	88,9±5,5	92,1±8,7	95,4±7,5	71,9±5,6	119,5	<0,01
Carbohydrates	439,1±12,8	592,0±16,7	432,1±14,2	360,7±11,6	561,2	<0,01
Ratios B:F:U	1:0,9:4,3	1:0,9:4,9	1:0,9:4,3	1:1,1:5	1:1:4	

In the winter-spring season, sugar consumption increases slightly, and in Samarkand it is  $25.0 \pm 0.4$ , in Tashkent  $33.0 \pm 1.6$  g per day or in terms of confectionery products  $62.0 \pm 1.5$  g per day or 22.6 kg per year in Samarkand and  $83.0 \pm 2.0$  grams per day, or 30.2 kg per year in Tashkent.

According to the research results, for the first time in Uzbekistan, data were obtained characterizing the consumption of confectionery products by type of product. Sugar consumption, excluding confectionery products, in Samarkand in the summer-autumn season was  $24.0 \pm 0.5$  grams per day, or 9.2 kg per year. Converting confectionery products to sugar or 17.3 kg per year. In Tashkent in the summer-autumn season, sugar consumption was  $28.0 \pm 0.6$  g per day, or 10.2 kg per year. With the conversion of confectionery products  $66.0 \pm 1.5$  g/day or 24 kg per year.

**Conclusion:** As a result of the study, it was found that at a low level of adherence to the principles of rational nutrition, the energy intensity of carbohydrates in the average daily diets in the studied objects is high, while the energy intensity of proteins is low. This provision indicates the need to develop measures to ensure the safety of confectionery products according to a modern system from “farm to dastarkhan”.

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