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ГЛУТАМАТ НАТРИЯ КАК ПРИЧИНА ПИЩЕВОЙ ЗАВИСИМОСТИ

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SODIUM GLUTAMATE AS A CAUSE OF FOOD ADDICTION

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Резюме. С каждым годом растет потребление людьми пищи быстрого приготовления, также увеличивается содержание пищевых добавок в продуктах. Это исследование направлено на изучение отношения людей к пищевой добавке глутамат натрия (Е621) и его влияние на формирование пищевой зависимости.

Ключевые слова: глутамат натрия, зависимость, продукты, осведомлённость.

Resume. The fast food consumption by people is growing every year, and the food additives content in products is also increasing. This research is aimed at studying the people's attitude to the dietary supplement monosodium glutamate (E621) and its effect on the food addiction formation.

Keywords: monosodium glutamate, addiction, foods, awareness.

Relevance. Most buyers, choosing food products, pay their attention to the bright packaging only, without even thinking about the most important thing - the product composition. Manufacturers use a large number of food additives to give the desired taste, color, smell and consistency to the product. One of these additives is monosodium glutamate, also known as E621. It is widely used to improve the food taste and helps to increase appetite. Currently, there are a lot of debate about the safety of using this dietary supplement. There are some opinions that sodium glutamate prolonged use in food or in a large amount forms dependence. Many people are poorly informed about the monosodium glutamate effect on the body. Actually, there has been a tendency for children to use products containing monosodium glutamate recently.

Aim: to study the sodium glutamate effect on the human body and the dependence formation. To determine the people's awareness degree in this option.

Tasks:

1. To study the literature on sodium glutamate and its effect on the body.
2. To conduct a questionnaire among the students and analyze the data obtained.

Material and methods. A special questionnaire was carried out to conduct the study. 168 people of different ages and genders took part in the survey, most of them were the Belarusian State Medical University students. The questionnaire assessed the given issue people's awareness and their attitude to the monosodium glutamate dietary supplement.

Results and discussion. 168 respondents participated in our research. Among them there were 135 women (80,4%), 33 men (19,6%), aging under 18 — 24 (14,3%), from 18 to 30 — 143 (85,1%), from 30 and above — 1(0,6%). The results showed that 8,4% had

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never heard about the sodium glutamate supplement, 45,2% had heard, but were not interested, 46,4% were sufficiently aware of that issue. 62,5% of the interviewed believed that sodium glutamate had a negative effect on the body, 32,7% were positive, 4,8% --- had no effect.

Fig. 1 – Respondents' sex ratio

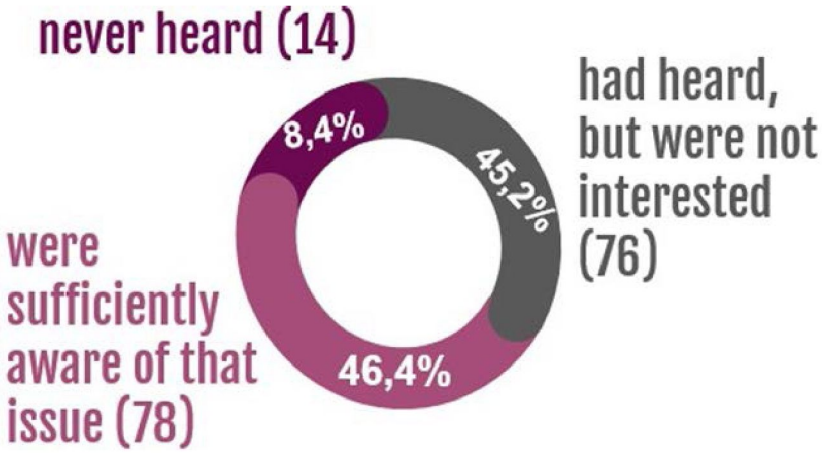

Fig. 2 – Respondents' awareness

Concerning the question of the using monosodium glutamate dependence formation, the respondents were divided into two groups: 20,8% believed that monosodium glutamate was not addictive, 79,2% believed that monosodium glutamate might be the addiction cause**.**

E621 is used to give the brighter taste to products, as well as to make certain the taste and smell negative components. For example, monosodium glutamate is able to soften the onions sharpness, reduce the raw meat taste, unripe fish, foods metallic taste, as well as suppress such undesirable shades in the food products smell as sulfide, salty, herbaceous, chemical, etc. MSG is added in products, such as instant noodles, snack food, dressing, cheese, pasta, jerky, dips, chips, sweets, sauces, spices, marinades, flavored rice, frozen meals, chicken nuggets, etc. In the products composition, sodium glutamate can also be designated as Autolyzed Yeast Extract, Hydrolyzed Vegetable Protein, Isolated Protein Source, Hydrolyzed Yeast, Vegetable Powder.

Sodium glutamate is particularly popular in Asian and Eastern countries, where the side effects of E621 systematic rise have been combined into the so-called "Chinese restaurant syndrome". Symptoms of the MSG Symptom Complex are: headache, nausea,

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weakness, burning sensation in the neck back, forearms and chest, chest pain, palpitations, facial pressure/ tightness, numbness in the neck back, radiating to the arms and back, bronchospasm (observed in asthmatics only), tingling, warmth, weakness in the face, temples, upper back, neck and arms, and finally also drowsiness. Both types of headaches, the headache of the MSG-symptom complex and the headache as a potential trigger for migraine, have been linked to the application of MSG as food additive.

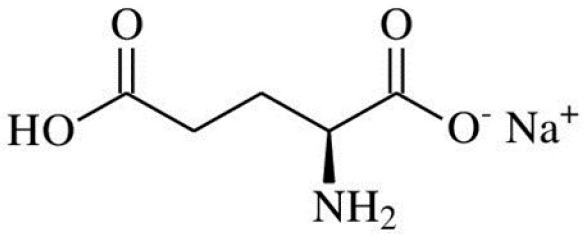

Fig. 1 – The sodium glutamate structure

Monosodium glutamate (MSG), used as food additive (E621), may influence eating behavior, inducing a «loyalty» for glutamate enriched-food and an addictive behavior. The glutamate activates pleasure centers in the brain and actually has addictive properties. When you couple hunger with MSG's addictive potential, you have a substance that you may very well start consuming more and more of on a daily basis.

In a small amount sodium glutamate is even useful, because it normalizes the low acidity, then regular use of E621 causes food addiction and can provoke allergic reactions. MSG is used as a flavor enhancer but also effects the brain neurological pathways and disengages the biochemical function which results, for many, in weight gain. MSG is injected into lab animals to induce obesity so that pharmaceutical companies can test their drugs.

Conclusion:

1. Based on the survey results and the study of various sources information, we conclude that the monosodium glutamate(E621) dietary supplement is not dangerous to health in normal dosage consumption.

2. However, the dependence is formed when using products containing monosodium glutamate for a long time.

3. The sodium glutamate negative effect on the body is also an increase in appetite, which subsequently leads to obesity.

4. Consequently, we consider it is necessary to indicate the sodium glutamate content on the package.

5. Also, according to our research course, a large number of people have the erroneous opinion that sodium glutamate has no effect on the human body. It means that the healthcare system task should also include the population providing with the necessary information in this area.

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