Emro Science and Education
International open-access scientific journal
Journal homepage: https://journal.emro.uz

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CONFERENCE PAPER OPEN ACCESS

Vol. 1 No. 1 (2023) · "Axborot oqimlari va intellektual tizimlarning ijtimoiy, iqtisodiy va texnik-texnol... DOI: 10.5281/zenodo.24318403

materiallar to'plami

TAMAKI TUTUNINING TARKIBI VA XOSSALARI

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Dunyoda 40 dan ortiq tamaki turlari ma'lum. Chekishning inson tanasiga ta'siri va patologik o'zgarishlarning namoyon bo'lishi tamaki va nafas olayotgan tamaki tutunini tashkil etuvchi moddalarning xususiyatlariga bog'liq. Tamaki bargida 4000 ga yaqin moddalar 1200 ta kimyoviy birikmalar topilgan. Ulardan uglevodlar, aminlar, nikotin, ammiak, uchuvchi asoslar, aminokislotalar, uglevodlar, organik kislotalar, polifenollar, efir moylari, smolalar va boshqalar [1, 2].

Chekish paytida tamaki tutuni orqali inson organizmiga 4000 dan ortiq kimyoviy birikmalar kiradi, ulardan 40 ga yaqini kanserogendir [3, 4]. Tamaki tutunining asosiy komponenti nikotin bo'lib, u tanaga o'ziga xos ta'sir qililadi va sigaretaning kuchini belgilaydi. Tamaki mahsulotlarida nikotinning o'rtacha meyori 1,2 dan 2,3% gachani tashkil etadi [1, 2].

Inson uchun nikotinning o‘lim dozasi 50-100 mg yoki 2-3 tomchi. Aynan shunday doza har kuni qonga 20-25 ta sigaret chekkandan keyin tushadi. Bir kunda 1 quti sigaret chekish – bu 1 yilda 500 rentgen nurlanishni olgan bilan barobar [3].

Nikotin o'rtacha qaynash harorati 140 - 145 ° C bo'lgan kimyoviy moddadir, ishqoriy muhitga ega va spirt, efirlar va suvda yaxshi eriydi. Ko'pincha, tamakining tarkibi nikotinga o'xshash nornikotin moddasini o'z ichiga oladi. Tamaki tutunini tashkil etuvchi eng asosiy moddalar orasida oqsillar - 13%, minerallar - 22% va tamaki smolasi - 15% ni tashkil etadi. Boshqa komponentlar miqdori 5% dan oshmaydi: o'z ichiga azot olgan moddalar -3 - 4%, efir moylari - 1,7% gacha, organik kislotalar - 5% dan ko'p bo'lmagan miqdorda, ammiak - 0,11 - 0,17% va metil spirti - 1%. Kanserogen ta'sirga ega bo'lgan moddalar orasida eng xavflisi polisiklik uglevodlarga tegishli benzopiren va o'ziga xos tamaki nitrozaminlaridir [1, 5, 6, 7]. Uzoq vaqt davomida olib borilgan tadqiqotlarga qaramay, tamaki tutuni va tamaki tarkibi hali to'liq ohirigacha o`ganilmagan.

Tamaki iste'mol qilishning ko'plab shakllari ma'lum. Ular orasida nafaqat sigaret va sigara chekish, balki trubka chekish, bidiz, nos, betel mishri va hayni eyish, tamaki barglarini chaynash va hidlash ham bor. Tamaki iste'mol qilishda eyforiya uning tarkibidagi alkaloidlar tufayli yuzaga keladi, bu esa tamakidan turli xil foydalanish shakllariga olib keladi [8, 9, 10].

Tamaki tutunining tarkibi bevosita tamaki turiga sigaret va filtr uzunligiga , qo'shimchalarning tarkibi va yonish haroratiga bog'liq. Tamaki yonishi natijasida paydo bo'lgan chekiladigan (ingalyatsiyalanadigan) tamaki tutuni gazsimon va qattiq fazaga ega geterojen aerozoldir. Gazsimon shakl tamaki tutunining umumiy massasining taxminan 92-95% ni tashkil qiladi.

Uning tarkibiga kislorod, azot, sinil kislotasi, akrolein, ammiak, asetaldegid, formaldegid, azot oksidi va karbonat angidridni o'z ichiga oladi. Oxirgisining kontsentratsiyasi chekuvchining to'qimalari va organlarida kislorodni etib borishi va o`zlashtirilishning yomonlashishiga olib keladi. Karbonat angidrid miqdori 5% dan oshmaydi va u ishlab chiqarishda ishlatiladigan qog'oz sifatiga,uning g`ovakdorligiga

Published: 10.11.2023

Cite this article: A.O. Xasanov (2023). Tamaki tutunining tarkibi va xossalari. Emro Science and Education, 1(1). https://doi.org/10.5281/zenodo.24318403

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va sigaretaning yonish haroratiga bog'liq. Sigareta chekishning oxiriga kelib, chiqarilgan karbonat angidrid miqdori ortadi.

Karbonat angidridning inson tanasiga salbiy ta'siri kislorodga qaraganda gemoglobin bilan yaqinroq munosabatda bo'lganligi sabablidir. Natijada, gemoglobinning kislorod bilan bog'lanishi, uning a'zolar va to'qimalarga tashilishi buzadi va kislorod va gemoglobinning yaqinligi kuchayadi, bu oxir-oqibatda organlar va to'qimalarda vaqt oralig`ida ajralib chiqadigan kislorod miqdorining kamayishiga olib keladi [11, 12].

Tadqiqotlar natijalariga ko'ra, chekuvchilarda karboksigemoglobinning o'rtacha darajasi 2 dan 15% gacha ekanligi aniqlandi. Bunga asosiy ta'sir bemor tomonidan chekilgan sigaretalar soni, oxirgi sigaretdan keyingi tekshirish vaqti va tutunni siqilish (затягивания) darajasi kabi ko'rsatkichlardir.

Tamaki tutunining bir qismi bo'lgan sinil kislotasi, akrolein, ammiak, atsetaldegid, formaldegid va azot oksidi yuqori nafas yo'llarining epiteliy hujayralariga toksik va mahalliy tirnab eng katta ta'sir ko'rsatadi. Nitrozaminlar, gidrazin va vinilxlorid kabi moddalar tamaki tutunining gazsimon fazasi tarkibida eng asosiy kanserogen xususiyatlarga ega [1, 7] moddalardir.

Umumiy massaning 8% gacha bo'lgan tamaki tutunining qattiq fazasining bir qismi sifatida qatronlar, ko'p yadroli aromatik uglevodorodlar, β -naftilamin, poloniy-210, N-nitrozonornikotin, benzapiren va boshqalar katta rol o'ynaydi va tanaga salbiy ta'sir qiladi. Bu elementlarning ta'siri o'smalarning o'sishini va umumiy kanserogen ta'sirini tezlashtirishidir [13, 14].

Hozirgi kunda zamonaviy zihozlar bilan tamaki tarkibini yanada chuqur o`rganib, uni inson salomatligiga, og`iz boshlig`iga ta`sirini tahlil qilish muhim ilmiy va amaliy ahamiyatga egadir.

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DEVELOPMENT OF PARALLEL PROCESSING ALGARITHMS FOR SIGNALS IN SPLINE METHODS

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Abstract. The main purpose of the algorithm is to clean the signals from random transitions and noises with additional resolution. An algorithm for denoising signals was developed by analyzing the noise model using spline functions in the absence of information about the characteristics of the noise. Methods of modeling parallel digital noise using the capabilities of parallel digital processing of these algorithms have been researched.

Key words: spline functions, parallel processing, numerical noise, random shifts, additive programming.

A spline is a simplified geometric device for the interpolation of a function or data. Spline methods are used to create the necessary interpolation of a function from a data set to points that are not defined in the table. In this method, a polynomial function is defined for each piece of data and the polynomials subtracted from them are used together as if they were added.

There are three popular methods for performing spline interpolation:

1. Linear Splines: The linear spline method uses line segments between any two points. In this method, for example, the values of the function between two points are matched, and the linear polynomials extracted from them are added to the segments. Linear splines are the simplest and fastest method, but provide the least degree of variation.

2. Cubic Splines: The cubic spline method uses a series of points where the function between any two points is undefined. In this method, a cubic polynomial between two different points is generated for each segment. At the same time, the complexity of the function increases and the results of interpolation are determined by calculating cubic functions.

3. Higher-order Splines: Cubic splines are one of the most commonly used splines, but there are other higher-order splines. For example, to interpolate a function between two points, you can create a quint polynomial between two different points. Additive degree splines are commonly used to interpolate complex functions.

Spline interpolation is a simple and efficient way to interpolate to undefined points in a data set and can be very useful for working with complex functions such as complex functions and sinusoids. These techniques can be very useful for fields such as graphics, graphics, animation and computer graphics. Parallel signal processing using spline methods involves utilizing parallel computing techniques to process signals using spline interpolation methods. Spline interpolation is a mathematical technique used to estimate values between given discrete data points. It is commonly used in signal processing for tasks like smoothing noisy data, resampling signals and curve fitting.