International Journal of Medical Sciences And Clinical Research

VOLUME Vol.05 Issue05 2025
PAGE NO. 92-95
DOI 10.37547/ijmscr/Volume05Issue05-19

Analysis of The Harmfulness of Tobacco Smoking Through the Reliability Coefficient

Bahramov Rustam Rakhmatullayevich
Assistant of the Department of "Medical Biology, Physics, Informatics and Microbiology", Zarmed University, Samarkand, Uzbekistan

Haydarova Naila Pardaboy qizi
Student of the Faculty of Pharmacy, Zarmed University, Samarkand, Uzbekistan

Husanova Mehribon Sherzod qizi
Student of the Faculty of Pharmacy, Zarmed University, Samarkand, Uzbekistan

Mahmudova Nilufar Husniddin qizi
Student of the Faculty of Pharmacy, Zarmed University, Samarkand, Uzbekistan

Received: 31 March 2025; **Accepted:** 29 April 2025; **Published:** 31 May 2025

Abstract: We know that smoking is harmful to human health. But it is very difficult for us to follow this, because a person can find himself in different situations. There are happy days, there are anxious days. Then we smoke tobacco to distract ourselves, and every time such a situation occurs, we start smoking tobacco and we develop a tendency to do so.

Keywords: Nicotine, lung cancer, heart attack, t-Reliability coefficient, MS Excel program.

Introduction: Another harmful product for the human body is tobacco. We know that smoking tobacco is harmful to human health. But it is very difficult for us to follow this, because a person can find himself in different situations. There are happy days, there are anxious days. Then we smoke tobacco to distract ourselves, and every time such a situation arises, we start smoking tobacco and we develop a tendency to do so. Today, tobacco smoking kills more than 8 million people worldwide every year. After evidence emerged that smokers are at a higher risk of developing severe COVID-19 than non-smokers, millions of people decided to quit smoking. After 20 minutes of quitting smoking, the heart rate decreases. Within 12 hours, the level of carbon monoxide in the blood drops to normal. Within 2-12 weeks, blood circulation improves and lung function returns to normal, says the World Health Organization website. “Within 1-9 months, cough and shortness of breath decrease. Within 5-15 years, the risk of stroke decreases to the level of a non-smoker. Within 10 years, the risk of dying from lung cancer is halved compared to heavy smokers. Within 15 years, the risk of developing cardiovascular disease decreases to the level of a non-smoker. If these are not enough, here are a few more reasons! - WHO gives the reasons. The tobacco "mixture" contains several thousand chemicals! More than a hundred of them are very toxic to the human body, at least 70 of which are classified as carcinogens.

Three substances are released from tobacco products: Nicotine affects the brain within seconds, raising blood pressure and increasing heart rate. It is nicotine that is “to blame” for the strong addiction to tobacco! Carbon monoxide, when carried through the bloodstream, replaces oxygen, thereby reducing the amount of oxygen needed for the proper functioning of tissues and organs.

Figure 1. Cigarette and Electronic Cigarette

Figure 2. Before and After

Carbon monoxide narrows the small airways in the lungs and interferes with the supply of oxygen. In addition, it accumulates in the bronchioles, causing "smoker's cough" over time and contributing to the development of many lung infections. Considering all of the above, it is not surprising that smoking is a major cause of the following diseases:

- lung cancer;
- ischemic heart disease;
- chronic obstructive pulmonary disease. In addition, smoking significantly contributes to the development of:
- atherosclerosis;
- cerebrovascular diseases, including stroke;
- more than 20 types of malignant diseases (oral cavity, larynx, esophagus, stomach, bladder, cervix);
- acute respiratory diseases;
- asthma / bronchitis (as well as its exacerbation!);

RESULTS

The arithmetic mean ***M*** of this variational series is determined by the following formula.

$$M = \frac{\sum_{i=1}^{N} v_i}{N}, \textbf{(1)}$$

The formula for determining the mean square deviation ***G*** is expressed as follows.

$$G = \sqrt{\frac{\sum_{i=1}^{n} d_i^2}{n-1}}, \textbf{(2)}$$

Now we can express the arithmetic mean precisely using ***G***. To do this, the error of the arithmetic mean is determined using the following formula:

$$m = \frac{G}{\sqrt{n}}, \text{ when n = greater than 30, } \textbf{(3)}$$

$$m = \frac{G}{\sqrt{n-1}}, \text{ when n = less than 30, } \textbf{(4)}$$

Using these formulas, we determine the Reliability Coefficient as follows:

$$t = \frac{|M_1 - M_2|}{\sqrt{m_1^2 + m_2^2}};$$

For example: For reference, let's look at the respiratory rate of 10 smokers per minute and the number of breaths these smokers took after physical exercise and find the confidence coefficient. For this, we use mathematical statistical formulas:

Number of breaths at rest	Number of breaths after exercise
23	**30**
22	**29**
21	**28**
22	**27**
20	**29**
23	**30**
21	**28**
24	**33**
22	**31**
21	**30**

Results

Number of breaths at rest	Number of breaths after exercise
$M_1 = 21,9;$	$M_2 = 29,5;$
$G_1 = 1,20;$	$G_2 = 1,72;$
$m_1 = 0,40;$	$m_2 = 0,57$

$$t = \frac{|M_1 - M_2|}{\sqrt{m_1^2 + m_2^2}} = \frac{|21,9 - 29,5|}{\sqrt{0,40^2 + 0,57^2}} = \frac{|-7,6|}{\sqrt{0,16 + 0,33}} = \frac{7,6}{\sqrt{0,49}} = 10,9$$

In our example, t = 10,9. This indicates that the difference between the control and experimental groups is very significant. In this case, the significance level is less than P = 0.1%.

CONCLUSION

The result shows that all medical institutions in my country are being equipped with modern digital medical technology devices. Through digital medical technologies, qualified doctors are making quick and accurate diagnoses of patients' diseases and preventing diseases. The accuracy and clarity of the images guarantee that the doctor will not make an error in the diagnosis of the patient. Modern digital medical technology devices include computed tomography, ultrasound, cardioecho, laboratory equipment and other medical devices.

REFERENCES

Avdeenko, T.V., Aletdinova, A.A. Tsifrovizatiya ekonomiki na osnove sovershenstvovaniya ekspertnykh sistem upravleniya znaniyami // Nauchno-teknicheskie vedomosti Sankt-Peterburgskogo gosudarstvennogo polytekhnicheskogo universiteta. Economic science. 2017. T. 10. No. 1. S. 7-18.

Grebenshchikova, E.G. Personalized medicine and future medicalization // Filosofskie problemy biologii i meditsiny. Sat. state. M.: Moscow. Mr. medico-dentist. university im. A.I. Evdokimova, 2015. S. 75-77.

Bahramov R. i dr. ROL I ZNACHENIE MATEMATIChESKOY STATISTIKI V MEDITsINE //Eurasian Journal of Academic Research. - 2022. - T. 2. – no. 13. – S. 1615-1619.

Rakhmatullaevich B. R. et al. STATISTICAL ANALYSIS OF MEDICAL DATA AND PROCESSING IN MS EXCEL //British View. - 2023. - T. 8. – no. 1.

Bahramov R. R., Malikov M. R., Abdurakhmanov R. P. ZABOLEVANIYA VYZVANNYE HELMINTAMI U DETEY I PROGNOZ RAZVITIYa ETIX ZABOLEVANIY //Eurasian Journal of Medical and Natural Sciences. - 2022. - T. 2. – no. 5. - S. 58-62.

Bakhramov R. R., Malikov M. R. THE METHOD OF USING THE FUNCTIONAL DIFFERENTIAL EQUATION IN DETERMINING PARASITES IN CHILDREN //Academic research in educational sciences. - 2021. - T. 2. – no. 3. - S. 280-288.

Bakhramov R.R., Abdurakhmonov R.P., Malikov M.R. Diseases caused by helminths occurring in children of world countries and prognosis of these diseases //Web of Scientist: International Scientific Research Journal. - 2022. - T. 3. – no. 3. - S. 330-334.

Bahramov R. R., Abdurakhmanov R. P., Malikov M. R. DISEASES CAUSED BY WORMS (GILMENT) IN CHILDREN OF THE WORLD COUNTRIES AND THE PROGNOSIS OF THESE DISEASES.

Bahramov R. i dr. THE USE OF MATHEMATICAL MODELING IN THE PREDICTION OF ANIMAL DISEASE IN CHILDREN //Eurasian Journal of Medical and Natural Sciences. - 2022. - T. 2. – no. 12. - S. 172-177.

Bahramov R., Abdurakhmanov R., Malikov M. DETERMINATION OF THE RELIABILITY COEFFICIENT USING MATHEMATICAL STATISTICS IN THE FORECASTING OF ANIMAL DISEASE // Evraziyskiy zhurnal prava, finansov i prikladnyx nauk. - 2023. - T. 3. – no. 2. - S. 146-151.