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DEVELOPMENT**



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TABLE OF CONTENTS

AGRICULTURAL SCIENCES

1. *Iesipov O., Polyashenko S.* 17
POTENTIAL OF BIOGAS AND BIOMETHANE FROM ORGANIC WASTE OF ANIMAL HUSBANDRY.
2. *Iesipov O., Polyashenko S.* 23
TOPINAMBUR ENERGY CULTURE FOR RENEWABLE ENERGY PRODUCTION.
3. *Мамарузиев Абдукаюм Абдумавлан угли, Каримов Э. Ё., Ахмеджанов А. Н., Абдумавланов Окилбек Абдукаюм угли* 30
ПЕРСПЕКТИВНИЙ СОРТ ХЛОПЧАТНИКА ЗАМИН В СИСТЕМЕ ХЛОПКОВО-ТЕКСТИЛЬНОГО КЛАСТЕРА “FERGANA-OSEANA TEXTILE” LTD.
4. *Туровцева Н. М., Бредіхіна Ю. Л., Клічаніна Ю. В.* 36
АСОРТИМЕНТ ОВОЧЕВИХ РОСЛИНИ ДЛЯ АКТИВНОЇ ГАРДЕНОТЕРАПІЇ.
5. *Юсибов Фахраддин Мурад оглы* 41
НЕЗАМЕНИМАЯ РОЛЬ ЭЛЕКТРО-ТЕХНОЛОГИЙ В СЕЛЬСКОМ ХОЗЯЙСТВЕ.

VETERINARY SCIENCES

6. *Данілова І. С., Данілова Т. М.* 48
ДОСЛІДЖЕННЯ БІОЛОГІЧНИХ ВЛАСТИВОСТЕЙ РАВЛИКІВ.
7. *Кос'янчук Н. І.* 55
ОСОБЛИВОСТІ ПІДГОТОВКИ МАЙБУТНІХ ЛІКАРІВ ВЕТЕРИНАРНОЇ МЕДИЦИНИ.

BIOLOGICAL SCIENCES

8. *Астахова Л. Є., Антоні С.* 60
ТАКСОНОМІЧНИЙ АНАЛІЗ ІНТРОДУКОВАНОЇ ДЕНДРОФЛОРИ ПАРКУ КУЛЬТУРИ ТА ВІДПОЧИНКУ ІМ. Ю. ГАГАРИНА (М. ЖИТОМИР).
9. *Баранова А. О., Нечипоренко Д. І., Бабенко В. М., Соколик А. В.* 68
ХАРАКТЕРИСТИКА НОРМАТИВНО-ПРАВОВОЇ БАЗИ ЕКОЛОГІЧНОГО НОРМУВАННЯ.
10. *Мамедова И. О., Мамедова З. Е.* 71
РАЗВИТИЕ ОСОБЕННОСТИ КОРНЕВОЙ СИСТЕМЫ МИРТ ОБЫКНОВЕННЫЙ (MYRTUS COMMUNIS L.) В УСЛОВИЯХ АШБЕРОНА.
11. *Тарусова Н. В., Малюта С. И., Вельган М. В.* 77
СТРУКТУРА ТА ДИНАМІКА ПОПУЛЯЦІЙ ТУРУНІВ (CARABIDAE, COLEOPTERA) МІСТА МЕЛИТОПОЛЬ.

12.	<i>Тарусова Н. В., Малюта С. И., В'юн В. В., Салько Д. С.</i> ВПЛИВ АВТОМОБІЛЬНОГО ТРАНСПОРТУ НА УРБОЕКОСИСТЕМУ МАЛИХ МІСТ (НА ПРИКЛАДІ МІСТА МЕЛІТОПОЛЬ).	81
13.	<i>Шидловська О. А., Калініченко О. О.</i> БАКТЕРИЦИДНА ДІЯ НАНОЧАСТОК СРІБЛА ТА ЦЕРІЮ, ОТРИМАНИХ БІОГЕННИМ СИНТЕЗОМ ІЗ ЗАСТОСУВАННЯМ SACCHAROMYCES CEREVISIAE.	86
MEDICAL SCIENCES		
14.	<i>Artemov A. V., Litvinenko M. V., Koshelnyk O. L.</i> NON-TOXIC DRUG THERAPY FOR CANCER. ANALYSIS OF THE PROBLEMS AND PROSPECTS.	96
15.	<i>Gruzieva T. S., Inshakova H. V.</i> CURRENT TRENDS IN DIABETES MELLITUS MORBIDITY AND ITS PREVENTION MEASURES.	105
16.	<i>Kremenchutskyi G. N., Stepanyskiy D. A., Turlyun S. A., Kulishenko S. G.</i> INFLUENCE OF AEROCOCCUS VIRIDANS ON FACTORS OF IMMUNOLOGICAL REACTIVITY HUMAN BODY IN VITRO.	110
17.	<i>Kiro L. S., Zak M. Yu.</i> FEATURES OF FOOD BEHAVIOR IN PATIENTS WITH NON- ALCOHOLIC FATTY LIVER DISEASE DEPENDING ON THE BODY WEIGHT INDEX.	118
18.	<i>Liudkevych H. P., Sukhan D. S., Nekrashchuk O. P., Melnyk V. A., Botanavych Ye. O., Khotiachuk L. O.</i> CHANGES IN THE AMOUNT OF THE HTRA1 GENE DURING PREGNANCY AND ITS INFLUENCE ON THE DEVELOPMENT OF PREECLAMPSIA AND INTRAUTERINE GROWTH RETARDATION.	129
19.	<i>Protsak T. V., Nazaruk V. V.</i> CURRENT LITERATURE DATA ON SKULL SHAPES IN ADULTS.	136
20.	<i>Rudyk D., Kliuzko I., Roshchin H., Pendeliuk V.</i> TREATMENT OF COMPLICATED FORMS OF PORTAL HYPERTENSION IN THE PANDEMIC COVID-19.	143
21.	<i>Vasylyev M. O., Filatova V. S., Makeeva I. N., Gurin P. O.</i> CORROSION RESISTANCE COMPARISONS BETWEEN DENTAL DENTURES FROM CO–CR–MO(W) ALLOYS MANUFACTURED BY TRADITIONAL CASTING AND CAD/CAM PROCESS.	147
22.	<i>Vergolyas M., Gulomov K., Gulomov K.</i> CONGENITAL HEART DEFECTS: TETRALOGY OF FALLOT.	151
23.	<i>Yurchenko O., Huseynova L.</i> COMPARATIVE ANALYSIS OF WORLD AND UKRAINIAN EXPERIENCE OF ORGANIZATION AND COORDINATION IN THE FIELD OF TRANSPLANTOLOGY.	162

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**CURRENT TRENDS IN DIABETES MELLITUS MORBIDITY AND ITS
PREVENTION MEASURES**

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Annotation. The article covers the analysis of the incidence of diabetes at the global, regional and national levels. The results of the analysis of the incidence of diabetes in the elderly that are served in a multidisciplinary health care facility is presented. Measures to prevent diabetes and its complications are substantiated.

Key words: diabetes mellitus, elderly population, morbidity, prevalence, multidisciplinary health care institution, preventive measures.

Diabetes mellitus (DM) morbidity is a global problem. According to the World Health Organization (WHO), this disease is the ninth leading cause of death on Earth [1]. In 2021, 6.7 million people worldwide died of diabetes, and every 5 seconds a person dies from the disease. 537 million adults suffer from this disease, according to forecasts in 2045 this figure will be more than 783 million people. One in three adults with diabetes lives in low- and middle-income countries. Three out of four adults with diabetes live in low- and middle-income countries. Another 550 million adults have impaired glucose tolerance, which leads to a high risk of developing type 2 diabetes in such people. The socio-medical and economic consequences of diabetes are very severe. It is the leading cause of blindness, kidney failure, cardiovascular disease, and amputation of the lower extremities. Over the past 15 years, health care spending on diabetes has increased 3.2 times to 966 billion, USD [1, 2].The

demographic shift towards an aging population is one of the most significant socio-economic and political transformations of today. This requires changes in the health care system to provide comprehensive health services that take into account the needs of older people. The increase in the prevalence of diabetes, especially type 2 diabetes, is a consequence of increasing life expectancy. Analysis of the prevalence of diabetes indicates age differences in this disease. Thus, the lowest rate in the world is observed in the age group of 20-24 years and is 2.2 cases per 100 people. At the same time, among people aged 75-79 it is 24.0 cases per 100 people, and according to the forecast by 2045 it will increase to 24.7 cases per 100 people of the appropriate age. Moreover, the prevalence of diabetes will grow faster among people over 55 years. In the WHO European Region (EC), about 61 million people have diabetes, or one in eleven. And 36.0% - every third person is not diagnosed. The European region is home to the largest number of young people with the disease - 295 thousand. The yearly spend on diabetes treatment is 189 billion USD, which is 19.6% of spending in the world, and ranks second in spending on an adult with diabetes - more than 3 thousand USD. The highest prevalence of diabetes in 2021 was observed in Turkey (14.5 per 100 adults), Spain (10.3 per 100), Andorra (9.7 per 100), Portugal (9.1 per 100) and Serbia 9.1 per 100 adults). The prevalence of diabetes is increasing in all age groups. During 2010-2018, the morbidity of diabetes in the EP increased by 5.3% and the prevalence - by 21.1% (Fig. 1 and Fig. 2).

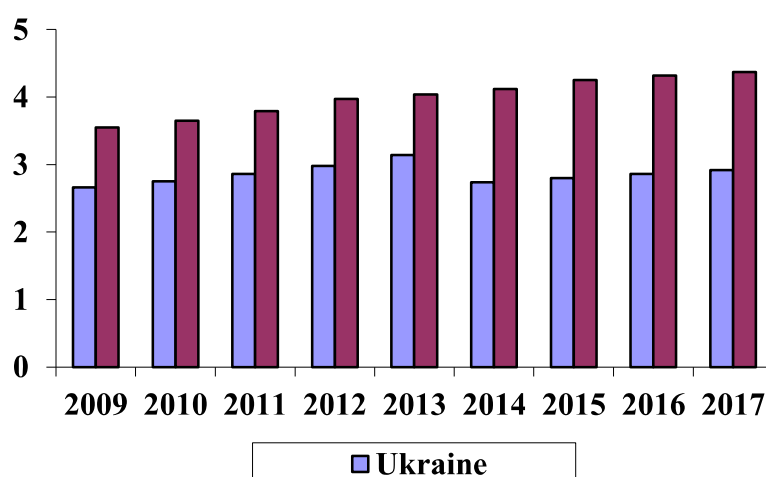


Fig. 1. Prevalence of diabetes mellitus in the adult population of the European region and Ukraine during 2009-2017 (per 100 people)

In Ukraine, there is a growing trend in the prevalence of diabetes. During the period of 2009-2017, this indicator increased by 9.8%. At the same time, the primary morbidity of diabetes during this period decreased by 4.0% (Fig. 1 and Fig. 2).

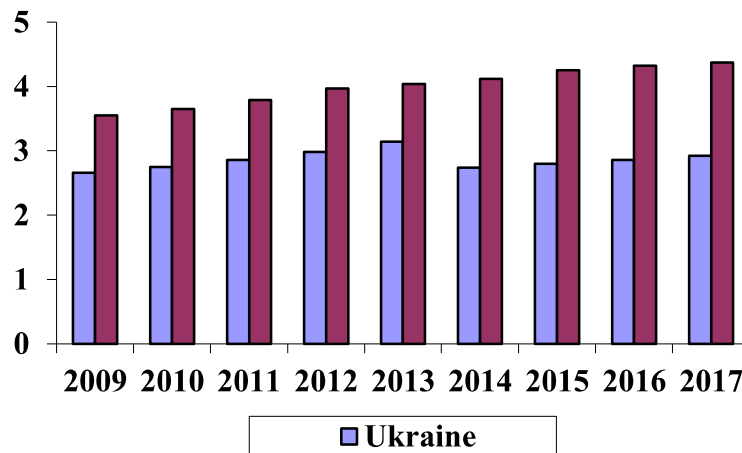


Fig. 2. Primary morbidity of diabetes in the adult population of the European region and Ukraine during 2009-2017 (per 100 thousand people)

We collected and analyzed data on the incidence of diabetes in elderly patients served in a multidisciplinary health care institution during 2009-2019. The results showed that the level of primary morbidity in the period 2009-2019 increased from 501, 8 cases per 100 thousand to 673.6 per 100 thousand, i.e. by 34.2%. The same trend is inherent in the prevalence of diabetes. Over the eleven-year period, the prevalence of diabetes increased from 10,111.7 to 12,735.6 per 100,000 elderly people, i.e. by 26.0% (Fig. 3).

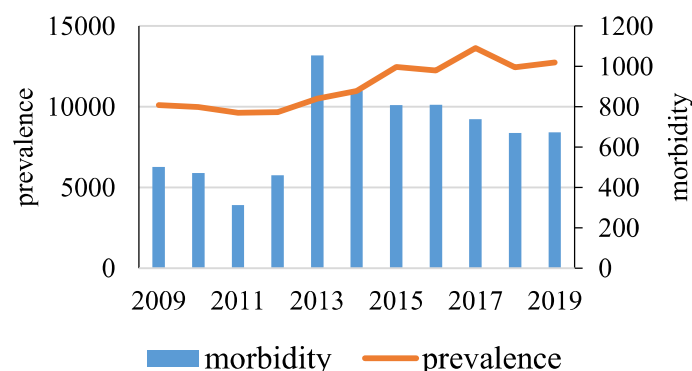


Fig. 3. Dynamics of the morbidity and prevalence of diabetes among the elderly population served in a multidisciplinary health care institution for the period 2009-2019 (per 100 thousand people)

It should be noted that the trend in the morbidity of diabetes was uneven. The highest rate was in 2014 and amounted to 1,053.9 cases per 100 thousand elderly people, the lowest - in 2011 (312.8 per 100 thousand). Since 2014, there has been a downward trend in the rate, which decreases by 36.1%.

The prevalence of diabetes among the elderly was the highest in 2017 and amounted to 13,633.2 cases per 100,000, the lowest - in 2011, which registered 9,662.9 cases per 100,000. In 2019 the prevalence of diabetes was: 10% insulin-dependent and 90% insulin-independent diabetes mellitus. Complications of diabetes occurred in 789.9 cases per 100 thousand, and 22.1% of them were diabetes with kidney disease, and 76.7% - diabetic retinopathy.

Patterns and features of morbidity of the population, including older age groups, allow to justify measures to prevent the incidence of diabetes and its complications, determine their priority and implement modern strategies to preserve and promote public health.

To encourage and support effective measures to prevent and control diabetes, the World Health Organization develops and provides evidence-based guidelines for diabetes prevention, establishes norms and standards for the detection and treatment of diabetes, conducts epidemiological surveillance of diabetes and its risk factors, and raises public awareness about the spread of diabetes.

It is known that the risk factors for diabetes are those that cannot be influenced, such as age, gender, genetic history, ethnicity, and those that are significantly affected by changes in behavior and environmental conditions. These are, above all, overweight and obesity, unhealthy diet, physical inertia, smoking, social and economic problems.

The main point of the WHO Global Diabetes Report is that cross-sectoral approaches at the population level need to be taken to reduce the prevalence of changing risk factors [3]. Interventions aimed at healthier nutrition, increased physical activity, weight control and blood sugar are more effective than medication. It should be noted that the prevention of diabetes should be a mandatory component of measures to prevent non-communicable diseases. WHO is urging governments to

regulate fat and sugar in food, the food industry to reduce fat and sugar by changing food recipes, and the promotion of junk food, especially among adolescents. The report stressed that measures to raise prices for foods high in salt, sugar and fat could reduce their consumption. Attention should be paid to the prevention of diabetes, especially type 2, throughout life, starting with improving the nutrition of children at an early age. With regard to promoting physical activity, the WHO recommends careful planning of urban infrastructure that could ensure the safety of pedestrians, bicycles and other non-motorized transport. Also, the population should be provided with safe opportunities for sports, recreation, nutrition and accommodation [3, 4].

REFERENCES

1. IDF Diabetes Atlas. 10th ed. – USA : IDF, 2021. – 135 p.
2. World Development indicators. People. URL : <https://datatopics.worldbank.org/world-development-indicators/themes/people.html>.
3. Global report on diabetes. – Geneva : WHO, 2018. – 88 p.
4. Diabetes epidemic in Europe: URL : <https://www.euro.who.int/en/health-topics/noncommunicable-diseases/diabetes/news/news/2011/11/diabetes-epidemic-in-europe>.