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INVALUABLE CONTRIBUTION OF AVICENNA IN THE STUDY OF DIABETIC PROBLEMS

¹Nodira Kurbanova, ²Rustam Djumaniyozov,
³Dilnura Omonova

¹Senior Lecturer, Department of Natural Sciences Doctor of Philosophy in Biological Sciences
(PhD), Urgench branch of the Tashkent Medical Academy

²Assistant of the Department of Neurology and Psychiatry, Urgench branch of the Tashkent Medical
Academy

³Student of TMA Urgench branch of the 4th year of the faculty Treatment
Urgench branch of the Tashkent Medical Academy

ANNOTATION

For physicians of all nations, the rich spiritual heritage of the great Abu Ali ibn Sino is priceless to this day: issues of the relationship between morality and science, upbringing and education, social responsibility, the formation of a highly moral personality. The thoughts expressed in his works, the description of the symptoms of diseases and methods of their treatment do not lose their significance. On the contrary, many of the methods and procedures offered by modern medicine were presented in a simple and understandable language in the medical works of the scientist. ... The relevance of studying the legacy of Avicenna using modern experimental and laboratory research methods in order to develop new alternative approaches to the tactics of diabetes mellitus therapy is beyond doubt. The aim of this study was to study and objectively analyze the problem of diabetes mellitus in the invaluable work "Canon of Medicine" in the light of the modern development of diabetology.

The most pressing problem in our time is the introduction of a healthy lifestyle, rationalization of nutrition. Avicenna has repeatedly mentioned the healing properties of dietary nutrition, however, according to modern researchers, adherence to proper nutrition is still low in 80% of the population. The importance of herbal medicine has been convincingly proven by Avicenna, but modern man prefers to be treated with synthetic drugs, neglecting the healing properties of medicinal herbs. The importance of homeopathy has been detailed by scientists. According to the WHO, homeopathy is considered the most common method komplementary medicine in Europe; in Uzbekistan, the issue requires further study. Avicenna's legacy is inexhaustible, and the faster the growth of civilization, the more we need to study the medicine of Abu Ali ibn Sino. The works of the scientist bequeathed to us: study past experience and enrich it with new achievements, supported by knowledge and practice!

KEY WORDS: *problems of diabetes mellitus, "Canon of Medicine", homeopathy, complementary medicine, herbal medicine, diet therapy in diabetology.*

ABSTRACT

For physicians of all times and peoples, the rich spiritual heritage of the great Abu Ali ibn Sino is priceless to this day: issues of the relationship between morality and science, upbringing and education, social responsibility, the formation of a highly moral personality ... The thoughts expressed in his works, the description of the symptoms of diseases and methods of their treatment do not lose their significance. On the contrary, many of the methods and procedures offered by modern medicine were presented in simple and understandable language in the medical works of the scientist. The relevance of studying the legacy of Avicenna using modern experimental and laboratory research methods in order to develop new alternative approaches to the tactics of diabetes mellitus therapy is beyond doubt. The purpose of this study

was to study and objectively analyze the problem of diabetes mellitus in the invaluable work "Canon of Medicine" in the light of the modern development of diabetology .

The most urgent problem of our time is the introduction of a healthy lifestyle, rationalization of nutrition. Avicenna has repeatedly mentioned the healing properties of dietary nutrition, however, according to modern researchers, adherence to proper nutrition is still low in 80% of the population. The importance of herbal medicine has been convincingly proven by Avicenna, but modern man prefers to be treated with synthetic drugs, neglecting the healing properties of medicinal herbs. The importance of homeopathy has been detailed by scientists. According to the WHO, homeopathy is considered the most common complementary medicine method in Europe; in Uzbekistan, the issue requires further study. Avicenna's legacy is inexhaustible, and the faster the growth of civilization, the more we need to study the medicine of Abu Ali ibn Sino. The works of the scientist bequeathed to us: study past experience and enrich it with new achievements, supported by knowledge and practice!

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RELEVANCE

The beginning of the third millennium was marked by the globalization of human civilization. The rapid development of all spheres of human activity has led to a rapid digitalization and modern man. Science, being a dynamically developing field and absorbing all the most advanced trends of the time, forces the scientific community to increase research activity. If in the past scientific work has been a priority of experienced professionals, many years to conduct research in a particular field, in our age there is a tendency to rejuvenation th science.

In the renewing Uzbekistan, all conditions are created for novice researchers. Research tasks to create the foundation for a new era of the Renaissance - the Third Renaissance - are acquiring special significance and relevance. It is known that, with no solid historical foundation, it is impossible to construct a building the present and the future. That is why the increased interest to the unique mu and unique th scientific and spiritual mu heritage th great ancestors. Scientific, cultural and spiritual values that have emerged in the Middle Ages in the Middle East and for the modern young researcher of Asia, must- s become a benchmark. We should cherish this immortal property of thinkers, encyclopedic scientists, find strength and inspiration in it for further achievements. For doctors of all times and peoples, the rich spiritual heritage of the great Abu Ali ibn Sino is priceless to this day: issues of the relationship between morality and science, upbringing and education, social responsibility, the formation of a highly moral personality.

The thoughts expressed in his works, the description of the symptoms of diseases and methods of their treatment do not lose their significance to this day. On the contrary, many of the methods and procedures offered by modern medicine were set forth in simple and understandable language even in the medical works of Abu Ali ibn Sino. We have

broad perspectives open before us for the study of the scientific heritage of the great healer, which has not lost its value and still serves progress. In chenye around the world seek to reveal new facets of his work, to use them in different directions, in particular in the medical practice. The relevance of studying the legacy of Avicenna using modern experimental and laboratory research methods in order to develop new alternative approaches to the tactics of diabetes mellitus therapy is beyond doubt.

The purpose of this study was to study and objectively analyze the problem of diabetes mellitus in the invaluable work of Abu Ali ibn Sino "The Canon of Medicine" in the light of the modern development of diabetology.

Despite the wide range of issues that Ibn Sino dealt with, he is known primarily as a great healer. What is the reason for this? Medical knowledge is considered one of the oldest acquired by man. With Dr. Av these times, people have sought to prevent and cure diseases, to live a healthy and long life. And to Abu Ali Ibn Sina in this area have been made great progress, that is the medicine of the rem eu la has become a science. A certain scientific base was formed, which consisted of the works of ancient scientists, the activities of such large scientific centers of that time as the Gundishapur Medical School, "Bayt al-Khikma", the Khorezm Academy of Mamun, where the knowledge of scientists from the Muslim world was collected. The legacy of Abu Ali ibn Sino is an invaluable and inexhaustible treasure [10, p.4]. With each appeal to him, we get to know the world and man more and more deeply. In this process, more and more facets of the unique genius, greatness and creative potential of man open up. Discoveries like these inspire us to reach new frontiers and contribute to a bright future for generations to come.

Many works of Abu Ali ibn Sino are a source of encyclopedic knowledge in specific areas,

and their study today is a scientific priority for us. His invaluable work, the Canon of Medicine (El-Kanun fi't-Tib), has served as a textbook on medicine in leading universities in Europe for almost 500 years, and became a reference and study guide for Western medicine until the 1650s. Then the product was the most detailed guide to the medicine of his time, which is logical and detail were set out all the issues associated with diseases and human health. The reason for such a wide distribution of Avicenna's main work is that the author systematized the scientific facts and hypotheses of all scientists who lived before him, and supported them with his observations and solutions tested in practice. This is precisely the greatest legacy of a scientist for posterity: to study what was collected before him and add a new one of his own!

Historical information about the stages of development of diabetology, from the first knowledge of diabetes to ultramodern innovative advances in the diagnosis and treatment of diabetes mellitus, is interesting. The greatest historical discoveries were: the identification of genomic and post-genomic mechanisms of the development of the disease, the discovery of insulin and oral sugar-lowering drugs, the use of insulin pumps and interventional surgery of severe complications of diabetes, methods of self-control and monitoring, determination of the level of HbA1c in the blood. However, at the very beginning of these discoveries stands the truly scientific feat of Abu Ali ibn Sino in the field of diabetology research. He was one of the first to describe in detail the etiopathogenesis of the disease, the clinic, and methods of treatment. Then why does this disease remain incurable? On the contrary, it has become a global problem for humanity.

Despite the joint efforts of the public, governments, medicine, despite the widespread introduction of information and communication technologies and "e-health", despite the introduction of national programs for the prevention, treatment and prevention of endocrine diseases, not only the total number of patients is growing, but also serious complications, disability and mortality from diabetes [6, p. 154].

According to the International Diabetes Federation, more than 425 million people worldwide suffer from this disease, most of them are patients with type 2 diabetes. Experts note that in developed countries every 15 years the number of diabetics is growing, and it has not yet been possible to stop this increase. According to forecasts, by 2040 the number of diabetics will reach 642 million and 540 thousand of them will be children under 14 years of age. Due to the severity of this problem, the WHO declared

diabetes mellitus to be an epidemic of the 21st century [2, p. 29]. In Uzbekistan, the number of patients with diabetes mellitus is more than 245 thousand, of which more than 2.3 thousand are children, 879 are adolescents [1, p. 111].

We have studied the issues of the etiopathogenesis of diabetes, issues of diabetes treatment from the point of view of Abu Ali ibn Sino, which are compared with modern data on this issue. One of the goals of the work was to study the concepts used by Avicenna in his works related to diabetes and bring them in line with modern scientific terminology. This approach to diabetes therapy allows a new look at the problem of the development of this progressive pathology and makes it possible to develop highly effective methods of treating diabetes, based on an understanding of the pathophysiological mechanisms of diabetes development and methods of its correction [4, p.169]. The rapid development of complementary medicine has led today to a significant increase in interest in herbal medicine for diabetes.

Methods of drug and non-pharmacological diabetes treatment based on an understanding of "nature" of the human body, the Food and Drug Wed dstv etc. irodnoogo origin, etc. edlozhennyh Avicenna in the "Canon of Medicine", is increasingly becoming the subject of research scientists [9, p.303]. However, modern medicine practically does not use the experience of Avicenna, which is based on the doctrine of "mizaj" in the basis of approaches to the treatment of various diseases. When correcting pathological conditions, measures were taken to restore the disturbed "mizaj" with the help of natural remedies, mainly for food purposes [3, 10, p. 4].

All products entering the body from the outside, having an acidic nature and contributing to a change in the nature of the human body from a normal neutral state to an acidic one, the scientist attributed to potentially diabetogenic. This is ancient general pharmacological regularity for many centuries has helped tens of generations of doctors, guided by the doctrine of the "mizaj" (nature) of natural antidiabetic drugs, as well as the nature of diabetic patients "mizaj", to prevent the aggravation of diabetic acidosis. The essence of the mechanisms of therapeutic action recommended by Avicenna's misage-correcting, antidiabetic agents is to correct acidosis, i.e. the acid-base state of the blood and the body's fluid to the neutral or slightly alkaline side, creating the necessary conditions for the normalization of disturbed metabolic and physiological processes, starting from intracellular, intercellular, intraorganic structures and the body as a

whole. It is these principles that underlie the strategy of treating diabetes mellitus today [5,8].

Abu Ali ibn Sino recommended treating diabetes according to the principle of "opposite to opposite", adjusting the diet and combining treatment with a general cleansing of the body from diabetogenic risk factors [10, p. 4]. Avicenna has repeatedly emphasized the role of diet therapy in the treatment of diabetes mellitus and other diseases, but we have to state with regret the fact that even today, modern people do not have a commitment to proper nutrition. The survey conducted among the population showed that the overwhelming majority of modern people (80-90%) consider high-calorie fried, flour dishes, which are characterized as "dead food", to be the best dishes of their diet. Vegetables, fruits, and especially greens in such households are used in negligible quantities (10-20%) [7, p. 375].

Abu Ali ibn Sino made an invaluable contribution to the study of not only traditional, but also complementary medicine. According to the definition of the World Health Organization (WHO), it is "the totality of all knowledge, skills and practices - regardless of whether they can be explained or not - based on the accumulated theories, beliefs and experiences of different cultures that are used to maintain health, as well as prevention, diagnosis, improvement or treatment of physical and psychological diseases ". Homeopathy is based on the principle of "like cures like" (similia similibus curantur), which Avicenna wrote about in detail. The principle of the homeopathic approach is to use a gentle and safe method to stimulate and trigger the body's self-healing mechanism.

Abu Ali Ibn Sina considered the "like like" tactics to be contraindicated for diabetic patients and suggested therapy on the principle "opposite - opposite". It is possible that it is the lack of adherence to these fundamental principles that makes current diabetes treatment insufficiently effective. According to modern researchers, more than 80% of diabetics are not compensated state. Perhaps the introduction of advances in complementary medicine in addition to drug therapy is a good way to achieve target glycemic levels [8].

In addition to his contribution to the establishment of phytotherapy as the copper industry China introduced Avicenna well. Phytotherapy studied by modern researchers with the use of modern analytical and experimental techniques for evaluations and mechanisms of anti-diabetic action of various medicinal plants in the treatment of diabetes. They studied the elemental composition of herbs etc. To confirm

the effectiveness of therapy on the "opposite-opposite" and biochemical mechanism of antidiabetic effect of alkalizing ("warming") agents. Unfortunately, to date, medicinal food plants are practically not used by doctors and patients in the treatment of diabetes [2, p.40], which is due, among other things, to insufficient knowledge of the content of active substances and possible mechanisms of action. Require further study medicinal plants, who played so crucial a role in the formation of resistance to insulin.

CONCLUSIONS

1. The key role in achieving sustainable development of diabetology, as well as of science in general, will be played by the widespread use of the invaluable knowledge of the geniuses of the past and the accumulation of innovative knowledge. Such symbiosis will lead to the development of science, raising all spheres of life to a qualitatively new level.

2. Avicenna repeatedly highlighted the most pressing problems of our time - the introduction of a healthy lifestyle, rationalization of nutrition, mentioned the healing properties of dietary nutrition, however, according to modern researchers, adherence to proper nutrition is still low in 80% of the population.

3. The importance of herbal medicine has been convincingly proven by Avicenna, but modern man prefers to be treated with synthetic drugs, neglecting the healing properties of medicinal herbs.

4. The importance of homeopathy has been described in detail by scientists, but in Uzbekistan the issue requires further study. Avicenna's legacy is inexhaustible, and the faster the growth of civilization, the more we need to study the medicine of Abu Ali ibn Sino.

5. The reason for the genius of Avicenna's main work "The Canon of Medicine" is that the author systematized the scientific facts, hypotheses of all scientists who lived before him, and supported them with his observations, solutions tested in practice.

The scientist's work bequeathed to us: study past experience and enrich it with new achievements, supported by knowledge and practice!

BIBLIOGRAPHY

1. Alikhanova N.M., Akbarov Z.S., Ismailov S.I. *Epidemiological aspects of diabetes mellitus in the city. Tashkent on the basis of register data // International Journal of Endocrinology. - 2016. - No. 2 (74). S. 111-114.*

2. Dedov I.I., Shestakova M.V., Vikulova O.K. *Epidemiology of diabetes mellitus in the Russian Federation: clinical and statistical analysis according to the Federal Register of Diabetes Mellitus // Diabetes mellitus*. - 2017. - No. 20 (1). - S. 13-41.
3. *Diet, nutrition and the prevention of chronic diseases: report of a Joint WHO / FAO Expert Consultation*. WHO Technical Report Series, No. 916. Geneva: World Health Organization; 2003.
4. Nolan C, Damm P, Prentki M. *Type 2 diabetes across generations: from pathophysiology to prevention and management*. *Lancet*. 2011; 378 (9786): 169-181.
5. Plaksin N.S., Kupriyanova V.M., Bogdanova T.M. *Diabetes mellitus: history of discovery, complications, prevalence // International student scientific bulletin*. - 2018. - No. 5.
6. Rahmetova MR *Aspects of primary and secondary prevention obesity and diabetes* *EPRA International Journal of Research and Development*. 2019. - Volum 4. Desember. P. 154-156.
7. Rakhmetova M.R. *Innovative distance diet therapy in diabetology / Actual problems of fundamental, clinical medicine and the possibilities of distance learning*. -2020.-P.375-377.
8. *Diabetes mellitus in the Republic of Uzbekistan: prevalence, morbidity according to statistical reports for the last 10 years / Alimov A.V., Khaidarova F.A., Berdykulova D.M., Alimova N.U., Sadikova A.S., Yuldasheva F .Z. / Bulletin of the Tashkent Medical Academy*. - 2018. - No. 3
9. Smolyansky B.L., Abramova Zh.I. *Guide to medical nutrition*. - Moscow . *Medicine*. -1984.- 303s.
10. Sharofova M.U. *Experimental study of medicinal plants used in the medical system of Avicenna for the treatment of diabetes / Abstract of the thesis for the degree of Doctor of Medical Sciences*. Moscow - 2019.