CERTIFIED TRANSLATION FROM POLISH

**CLINIC OF INTERNAL DISEASES,
ENDOCRINOLOGY and DIABETOLOGY
of the CENTRAL CLINICAL HOSPITAL
of the MINISTRY OF INTERNAL AFFAIRS AND ADMINISTRATION
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Opinion concerning the moderately-mineralized Jantar water

The Jantar still and lightly carbonated water was given to the Clinic of Internal Diseases, Endocrinology and Diabetology of CSK MSWiA, including the current results of the test performed by the Hydrogeotechnical Laboratory of the University of Science and Technology in Kraków, as a gift from the Jantar Wody Mineralne company in Kołobrzeg. The water was drunk by the employees of the Clinic (doctors and nurses) and their families.

Even though it may seem that every water tastes the same, this is not true. Individual types of waters have different characters, they have different mineral ingredients, different hardness and pH, and therefore their taste may also be different. The Jantar water is a moderately-mineralized water of the chloride-bicarbonate-sodium-calcium character. This composition provides it with unique, interesting taste which distinguishes it from the taste of waters sold on a mass basis in supermarkets, which is more comparable to the taste of other therapeutic waters from mountain spas located in the south of Poland. All the people who previously tasted the water emphasized its taste quality.

The activity of the Clinic I manage focuses on treatment of diabetes - one of the most serious modern-age diseases. The cause of such modern-age diseases is mainly a bad lifestyle and lack of nutrition. Therefore, an effective method to fight this type of diseases is to follow an appropriate diet, and the highest-quality water is a necessary component of such diet. Good hydration is one of the main elements of the reductive diet recommended to overweight people and people suffering from obesity.

The Jantar water has sufficient sodium contents (135 mg/d nr^5) which certainly affect its taste. However, apart from the taste, sodium is an element necessary for life. It mainly regulates the water balance in the organism and plays an important role in maintenance of the appropriate excitability of nerve and muscle cells. Higher sodium contents in drinking water may be to the advantage of people who exercise a lot (during exercise, the organism does not only lose water, but also electrolytes, including sodium), and everyday exercise constitutes one of the main recommendations for patients suffering from type 2 diabetes. At the same time, sodium contents is low enough to ensure that the drinking of the Jantar water does not entail the exceeding of the recommended daily sodium supply.

Another advantage of the Jantar water is high iodine contents which, with the consumption of one litre of that water, covers approximately 2/5 of the daily demand for iodine. Proper supply of iodine may be important for patients suffering from certain thyroid diseases. This may be particularly important for patients with co-existing arterial hypertension and renal diseases who, as a result of a necessity of reducing the consumption of table (iodized) salt, the daily supply of iodine is also reduced.

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Attention should be paid to the alkanility of the Jantar water (pH 7.4). In recent time, not only in women's magazines, but also in the scientific press, reports have been published concerning the health-promoting properties of alkaline water. As we know, people suffering from diabetes are particularly at risk of acidosis, but even in the case of a healthy person, improper diet may lead to chronic acidosis of a small degree which results in slight reduction of blood pH and bicarbonates in the serum (HC03-). However, if acidosis persists for a long time, even a small degree of acidosis may entail bad consequences for health. Chronic acidosis may lead to development of osteoporosis, osteoarthrosis, gout, arterial hypertension, renal deficiency and kidney stones, and deficiencies in the functioning of the immunology system. Alkaline substances may improve the bone mineral density (BMD), protect the muscle mass against chronic diseases (including cardiovascular diseases) and facilitate elimination of toxins from the organism. The drinking of alkaline water, thanks to its anti-oxidizing properties, may protect the beta tissues of the pancreas (a defect of the beta cells causes the progress of type 2 diabetes and a necessity of applying an insulin therapy).

To sum up, the Jantar water is a tasty water having the quality of a therapeutic water and, thanks to its composition, may be used by patients suffering from diabetes.

Notice of a conflict of interests:
I do not receive and have not received for the past 5 years any remuneration from any producer of mineral waters (including the producer of the Jantar mineral water) for any services or activities.

Prof. dr n. med. Edward Franek, specialist in endocrinology and diabetology

[Personal stamp bearing an illegible signature.]

I, the undersigned, Katarzyna Pawlak, a Sworn Translator of English in Warsaw, entered in the list of Sworn Translators, kept by the Minister of Justice, entry no. TP/4657/05, hereby certify that the attached translation is a true and correct translation of the document presented to me in Polish.
Warsaw, date: 1 February 2018
Register No. 65/2018
Fee collected according to the binding regulations.

KATARZYNA PAWLAK TŁUMACZ PRZYSIĘGŁY JĘZYKA ANGIELSKIEGO NR TP/4657/05

Katarzyna Pawlak, M.A.
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