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Quo vadis obesity management in the central european EASO region?**Quo vadis manažment obezity v stredoeurópskom regióne EASO?****A01 How seriously we are dealing with the obesity epidemic in Slovakia?****Ako vážne riešime epidémiu obezity na Slovensku?**

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Obesity is recognised as the chronic, relapsing and progressive metabolic disease with high prevalence worldwide, affecting not only adults but also children and adolescents. The situation in Slovakia does not differ from worldwide trends.

61.8 % of Slovak adult population is overweight and obese (based on data from 2012). 23.4 % has BMI ≥ 30 kg/m², 18.3 % from all adults (with predominance of males) has BMI 30–35 kg/m², about 4 % of the adult Slovak population (predominance of women) has BMI of 35–40 kg/m², and in the range of class III obesity BMI ≥ 40 kg/m² is more than 1 % of the adult population (predominate women).

Data from the 2021 survey confirm a high prevalence of overweight and obesity in the adult population (weight and height data were reported, not measured). 41 % of the total population in Slovakia has a BMI ≥ 27 kg/m², the prevalence of obesity (BMI ≥ 30 kg/m²) was 23 % in adults between 18–70 years.

After the COVID-19 pandemic, it is very likely that the situation will continue to deteriorate. A significant increase in the price of food, electricity, gas, etc. will certainly contribute to the increase in the prevalence of overweight/obesity.

According to survey the WHO European Childhood Obesity Surveillance Initiative the prevalence of overweight/obesity in boys was 17.1/14.9 % according to the WHO, 13.8/8.8 % according to the IOTF (the International Obesity Task Force) and 9.9/8.8 % according to the National criteria. Among girls, the prevalence overweight/obesity reached 15.1/11.1 %, 12.6/8.1 % and 7.5/9.5 %, which corresponded to the average of European countries. Abdominal obesity was identified in 76.9 % of overweight/obesity children, but also in 5.9 % of normal weight children. According to results of the work Slovak pediatricians, 32.5 % of obese children have a metabolic syndrome (simultaneous occurrence of several cardiovascular risk factors).

HBSC (Health Behavior in School-aged Children) project of the WHO takes place on a regular basis in Slovakia. Last results comes from the years 2017/2018 and give us information about the situation of overweight/obesity in the adolescent population. Between 2010 and 2018, the number of school children suffering from overweight and obesity decreased significantly (in the group of 11- and 13-year-old boys, 11-year-old girls), on the contrary, 15-year-old girls showed an increase in the number of those who reported overweight or obesity.

Life expectancy (LE) in Slovakia has increased substantially but remains among the lowest in the European Union (EU), gap in life expectancy by gender and education is higher than the EU average. Slovaks live longer lives but do not necessarily age in good health. Three quarters of life after 65 years of age is spent with some chronic health issues and disabilities, more than 40 % of people aged 65 years and above report at least one chronic condition (less than the EU average). Slovakia has among the highest mortality rates from preventable and treatable causes. A sub-

stantial proportion of deaths could be avoided. 11 000 deaths could have been avoided through better prevention, 8 000 through more adequate and timely health interventions.

At the end of 2021, the Slovak Obesity Association (SOA) prepared two standards for diagnostic and therapeutic procedures for the Ministry of Health of the Slovakia, which were adopted and published (Standards for diagnostic and therapeutic procedures for the complex management of overweight/obesity in adults and Standards for diagnostic and therapeutic procedures for surgical treatment of obesity in adults). The mentioned materials also included suggestions for improving the care of patients living with obesity. We predicted that the Ministry of Health would be helpful in introducing them into clinical practice.

The SOA also initiated two activities related to the healthy nutrition and diet. In 2022 its members participated in the creation of the first Slovak Food-based Dietary Guideline for adults, which is actually in the approval process by Ministry of Health of the Slovakia. SOA is a member of the Slovak Pro Nutri-Score Alliance and actively supports front of pack-labelling as the tool of supporting healthy eating habits of people in Slovakia.

Dietary approaches with a reduction in energy intake that led to success at weight loss are focused on macronutrient composition and food patterns. There are a variety of strategies and tools that individuals can use to achieve a personalized healthy eating pattern. In Slovakia there is a need of education and coordination of physicians and other nutrition professionals, which can provide support and specific dietary advice on changes to improve individual's eating behaviors. The improvement of nutrition and eating habits are necessary in general population as an important preventing factor of overweight/obesity.

Primary health care for a patient with obesity begins in the Slovakia with a general practitioner, who is the first to diagnose overweight/obesity as well as its associated diseases as part of preventive examinations. If necessary, the patient can be referred to a specialist in obesity management. This one prefers individual procedures of nutritional intervention within some recommended nutritional formulas. More often, however, the prescribed nutritional regimen is combined with medication, which significantly increases effectiveness. The reduction diet is thus adapted to the physical and psychological capabilities of the patient.

Three anti-obesity drugs are available in Slovakia for the pharmacological treatment of obesity (orlistat, naltrexone-bupropion SR and liraglutide 3.0 mg – from May 2022). We expect registration of semaglutide 2.4 mg in about 2024. Furthermore, there is currently no reimbursement for any of antiobesity medication.

Bariatric/metabolic surgery is practiced in four specialized centers in Slovakia, the most surgical procedures are performed in Banská Bystrica and Trnava (sleeve gastrectomy and Roux-en-Y Gastric Bypass (RYGB)). All of them are currently fully reimbursed with zero co-payment for patients by the General Health Insurance Company and the Health Insurance Company Dôvera, a.s.

Specialised obesity services, however, are not widely available in Slovakia and obesity care can vary across regions. SOA have to work out on multilevel obesity management network: obesity management centers, obesity outpatient clinics led by obesity specialists, related specialists such as diabetologists, endocrinologists, psychiatrists, cardiologists, surgeons, dietologists, general practitioners, etc. One of the major shortcomings is the non-existence of obesitology as a separate field within the subspecialties of internal medicine. We lack comprehensive education in the field of obesitology. The starting point for the obesity management is the training of obesity specialists (postgradual course). Subsequently obesity specialists should provide leadership and guidance for other physicians involved in obesity management.

In order to facilitate knowledge of obesity/diabetes more monographs has been published (Clinical Obesitology in 2013, Diabetes and obesity (diabetes) inseparable twins in 2019, Why obesity should be treated in 2020 and Reduction diet. How not to lose the quality of your life. Let's try another way in 2021). Annually we organised the Slovak Congress on Obesity with international participation focused on education obesity professionals and World Obesity Day focused not only on health care professionals, but also on lay public.

Complex lifestyle modification represents a backbone of obesity management. This approach requires a well-trained multidisciplinary team, that consists of physician/obesitologist, nutritional specialist, trainer/physiotherapist, and psychologist. During the last years, we have gradually developed the conditions to establish the Center of obesity management at Biomedical Research Center of Slovak Academy of Sciences (BMC SAS).

The Center offers complex lifestyle programs for the patients with obesity, delivered by a multidisciplinary team, in close collaboration with the Center of Physical Activity BMC SAS, Slovak Obesity Association and clinicians/specialists.

Research in the field of obesitology in Slovakia spans over more than two decades, and it is represented by both basic and clinical research, aimed at deeper understanding of pathomechanisms of obesity and its comorbidities, the effects and mechanisms of lifestyle modification, and translation into clinical practice.

Despite steady progress in the management of obesity, its prevalence continues to rise, stressing the necessity for prevention and intervention strategies not only at the individual level but also at the communities and the population as a whole. There is also still a lot of work to be done to increase the awareness of obesity as a chronic disease with numerous serious complication both in general public and also in healthcare professionals.

The SOA aims to: create awareness of obesity-related issues at legislative and ministerial level; prepare appropriate conditions for increasing involvement of primary care physicians in the process of obesity management; evaluate the benefits of all long-term therapeutic strategies for weight loss and maintenance in terms of health risks, quality of life and cost-effectiveness.

A02 Obesity management in Hungary: 30year experience and current situation **Manažment obezity v Maďarsku – 30-ročné skúsenosti a súčasná situácia**

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The Hungarian Society for the Study of Obesity was founded in 1992 between the first societies in this field in Europe. Two third of the Hungarian adult population is currently overweight or obese. In the first nutritional status survey based on measurements between 1985 and 1988, about half of the population was overweight or obese, of which 16 % were obese. Between 1994 and 2000 in a representative study, obesity among men and women increased by more than 1 % per year. Between 1998 and 2003, in yearly repeated nationwide survey covering approx. 20 000 people each year, the incidence of obesity and overweight was 67 %, of which obesity was found 20 %, the trend increased by 1.1 % yearly. Between 2009 and 2014 in the National Nutritional Status Survey, the growth trend of the prevalence of overweight and obesity has slightly decreased, remaining below 1 % per year, but the severe degree ($\text{BMI} > 35 \text{ kg/m}^2$) of obesity has increased. By 2014, 28.2 % of men and 31.5 % of women were obese. In 2013 survey of approx. 40 000 people based on information provided by general practitioners, obesity was 31.5 % among women and 32 % among men. In 2019 study based on the 10-year data of the Hungarian Comprehensive Health Screening Program, the prevalence of overweight and obesity in adults did not increase between 2010–2017 and 2017–2019 but obesity and its severe degree categories showed significant growth characteristics. It is particularly worrying that morbid obesity ($\text{BMI} > 40 \text{ kg/m}^2$) also affects 3–4 % of the adult population in Hungary, as well as children, and the prevalence of obesity among young people is increasing, currently around 25 %.

In the first official statement, followed the obesity guidelines of the Hungarian Society of Obesity, obesity was accepted as a chronic disease with several comorbidities by the Ministry of Health in 2002. It became clear that the cause, the obesity itself is not being treated, incurring further additional costs in the budget of healthcare for comorbid conditions. In 1998 for health care estimated costs of obesity and its consequences was 2 % of expenses, approx. HUF 11 billion. Calculation based on 2012 data according to the cost of healthcare of obesity and related diseases amounted to HUF 207 billion, 11.6 % of healthcare budget, 0.73 % of the GDP. There was partial finance for treatment with four centres for adults and one for children until 2007.

In the last decade, the legislative measures taken for prevention have proven to be effective in the trend of overweight rate in adults and children, such as the introduction of daily physical education, the trans-fatty acid regulation, the regulation of school cafeterias and cafeteria machines, the public catering regulation, and taxation. The health policy attention paid to the prevention of obesity in Hungary, but at the same time, the stigmatization and discrimination-free healthcare of obese patients cannot be considered solved yet. We have specialization in obesitology, but only the internists, endocrinologists, diabetologists and pediatricians may enter the 16-month long course. Currently developed the treatment of obese patients in the private sector. The pharmacotherapy and metabolic surgery available privately. In the national insurance financed metabolic centres there are treatments from multidisciplinary approach based on the comorbidities. We have three EASO COM's registered centres.

Early diagnosis and treatment of obesity cannot be without obesity management system financed by the national insurance. In our recommendation the professional and systemic development of the healthcare system in obesitology awaits a solution.

A03 Past, present and future of obesity management in the Czech Republic Minulosť, prítomnosť a budúcnosť manažmentu obezity v Českej republike

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Czech Republic belongs to the countries with highest prevalence of obesity in Europe and the number of patients with obesity keeps increasing even within the child and adolescent population. Despite numerous efforts and existence of the national program for prevention and treatment of obesity these measures do not satisfactorily transform into clinical practice. One of the major drawbacks is the non-existence of obesitology as an independent branch within internal medicine subspecializations. Furthermore, there is currently no reimbursement for any of antiobesity medication. The situation is much better with bariatric surgery where all of the surgical procedures are currently fully reimbursed with zero co-payment for patients. There is also still a lot of work to be done to increase the awareness of obesity as a chronic disease with numerous serious complication both in general public and also in health professionals.

A04 Obesity Management in Austria: Current State and Outlook Manažment obezity v Rakúsku: súčasný stav a perspektívy

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Obesity is a chronic, relapsing disease that affects approximately 15 % of the adult Austrian population but also increases in prevalence in children. Patients living with obesity can follow three paths of care: 1) trying to cure the disease of their own, through life-style modification via innumerable diets and yo-yo effects, including non-scientifically validated (expensive) weight-loss programs; 2) presenting at specialised obesity clinics, enrolling in weight-loss programs covered by social security or working with obesity medicine specialists in private practices; 3) only receiving medical treatment for obesity-related complications when necessary, without ever having addressed obesity as a disease. Medical management of obesity includes diet and physical activity training (usually not covered by state-funded mandatory insurance), weight-loss medication (rarely covered by insurance in exceptional situations only) and bariatric-metabolic surgery (< 5 %). For children and adolescents, work is under way to create a national system to treat obesity. While the current state of obesity management offers little accessible low-threshold options for patients, there is hope for a better outlook. Future possibilities include political acceptance of obesity as a disease, national disease management programs and full-funded medical treatment where necessary. Understanding obesity as a chronic disease means that every person with obesity has to be diagnosed, and in each case treatment needs to be accessible and efficient. This is the future.

A05 Polish obesitology yesterday, today and tomorrow Poľská obezitológia včera, dnes a zajtra

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Polish obesitology yesterday: The mother of Polish obesitology is undoubtedly Professor Barbara Zahorska-Markiewicz. At the end of the last century, she was the first to create an interdisciplinary team and center in which patients with obesity were treated comprehensively. I had the honor of starting my professional career in this team. Prof. Zahorska-Markiewicz cooperated with numerous foreign societies and participated in teams creating the first obesity treatment guidelines and the SCOPE program. As the President of PASO (since 2005), she also initiated activities aimed at creating a specialization in the field of obesitology and numerous trainings for doctors of various specialties. In 2011, when I replaced Professor Zahorska-Markiewicz as the president of PASO, I continued these educational activities and aimed at organizing specialist care for obese patients in Poland. In 2018, PASO started the implementation of the doctor's certification program in the diagnosis and treatment of obesity, for family doctors, internists, surgeons and pediatricians, and the accreditation of centers where obesity patients are treated by inter-

disciplinary teams (doctor, dietician, psychologist, physiotherapist and bariatric surgeon). This program won the EASO award in 2019.

Polish obesitology today: We are currently implementing the second stage of the certification training. In 2021, the first Polish textbook "Clinical Obesitology" was published. We work with patient organizations and create an online platform that is designed to help both patients and physicians increase their knowledge of the complexity of obesity and the ability to solve various problems.

Polish obesitology tomorrow: In this year the Ministry of Health has prepared a draft regulation on the introduction of additional medical skills to the specialization, we are working to make obesitology on this list and that from next year the first people with a certificate recognized by the Ministry of Health will appear, and PASO will be able to grant such skills. This may be the first step towards reimbursement of obesity treatment by the National Health Fund and the creation of obesity treatment centers where patients would be covered by interdisciplinary care.

A06 Croatia: from epidemiology to the therapy of obesity **Chorvátsko: od epidemiológie k terapii obezity**

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Croatia is among the European countries with highest prevalence of overweight and obesity. We are on the top of the European obesity scale with 64,8 % of adult population (73.2 % man and 58.5 % women) with the ITM > 25, and 23 % of population with ITM > 30. The numbers are still growing and estimations are that in 2030. we will have 32 % of obese males and 24 % of obese women with BMI > 30.

According to the data from COSI study we have also tremendous increase in children obesity. Percent of overweight and obese children in Croatia increased in last ten years from 20.8 to 35 % (for boys from 22.1 to 37 % and for girls from 19.5 to 33.1 %). We have now more than every third child, eight to nine years old who is overweight or obese. There are no geographical specificities, we have globally changed according to obesity in whole country. Interestingly the boys are mostly overweight and obese in Mediterranean area of the country (> 40 %). Because of a high rate of people infected with Coronavirus infection in last three years we expect even worst novel statistics in our population.

Although obesity is a disease according to international classification, less than 0.5 % of patients hospitalised in our hospitals have it detected officially in medical documentation. We have to work lot on a public, but also medical awareness on obesity. Our Ministry of Health initiated an Action plan 2023–2030 on obesity and we hope that with some administrative measures we can stop the progression of obesity pandemic in our country.

From this year we have a new drug liraglutide registered for treatment of obesity and next year we also expect the registration of semaglutide in the obesity indication. Some of the patients are treated endoscopically, mostly with intragastric balloons. In the last years also number of bariatric procedures is increasing, but it is still relatively low. Mostly performed operations in Croatia are gastric sleeve resection and Roux -en -Y gastric bypass.

This year on the National congress of obesity new Croatian guidelines for the obesity in elderly are presented and lately published.