

---

## IMPORTANCE OF NUTRITION AND ADJUSTING INSULIN DOSES BEFORE AND DURING PREGNANCY IN WOMEN WITH TYPE 1 DIABETES: CASE REPORT

Magdalena Pisačić<sup>1</sup>, Tomislav Ognjenčić<sup>1</sup>, Dunja Degmenčić<sup>1,2</sup>, Tatjana Bačun<sup>1,3</sup>

<sup>1</sup>Faculty of Medicine of Josip Juraj Strossmayer University of Osijek, Josipa Huttlera 4, 31000 Osijek, Hrvatska

<sup>2</sup>University Hospital Center Osijek, Department of Integrative Psychiatry, Clinic of Psychiatry, Josipa Huttlera 4, 31000 Osijek, Hrvatska

<sup>3</sup>University Hospital Center Osijek, Department of Endocrinology, Clinic of Internal Medicine, Josipa Huttlera 4, 31000 Osijek, Hrvatska  
pisacicmag@gmail.com

### Abstract

In women with type 1 diabetes, it is important to achieve proper glycemic values before pregnancy and to use medications that are allowed in pregnancy. Case covers 35 year old woman who was diagnosed with type 1 diabetes in childhood. The patient is on intensive insulin therapy which consists of short-acting insulin-aspart with three main meals (15 g carbohydrates: 1.5 U at breakfast, 1 U at lunch and 1 U at dinner) and long-acting insulin degludek at 10 pm. She was admitted to the Endocrinology Department with fluctuating glycemic values, with hypoglycemia in the afternoon and at night (HbA1c 8.7%), to regulate blood glucose as part of pregnancy planning. Further education on a regular balanced diet was conducted, the dose of aspart-insulin corrected depending on blood glucose and carbohydrate units in the meal (15 g carbohydrates: 1U at breakfast, 0.75U at lunch and 0.75U at dinner), and continuous glucose measurements is introduced. After 4 months, control HbA1c was 6.9%. Because of pregnancy planning, degludec-insulin was replaced with detemir-insulin, at two daily doses. She had nausea during her pregnancy, ate more fruits and carbohydrates and, accordingly, increased dose of aspart-insulin was applied with meals (now up to 2: 2 U with main daily meals). At week 28 of pregnancy, blood glucose was 5.0-5.7 mmol / l, glucose and ketones in the urine were normal, HbA1c 6.2% and had no symptoms of hypoglycemia. It is very important to achieve proper glycemic values prior and during pregnancy. Additional education is being conducted on a regular balanced diet, self-control or continuous measurement of blood glucose, adjusting the dose of short-acting insulin to glycemic values and carbohydrate units in the meal and correcting the basal insulin dose, as well as the importance of physical activity.

**Key words:** type 1 diabetes, insulin therapy, hypoglycemia, pregnancy and self-monitoring blood glucose

### SASTOJCI IZ HRANE I DODATAKA PREHRANI U PODRŠCI LIJEČENJU ZNAČAJNIJIH BOLESTI KOŽE

Midhat Jasic<sup>1</sup>, Lejla Bedak<sup>1</sup>, Ivan Vukoja<sup>2</sup>, Emilija Spasesa Aleksovska<sup>3</sup>, Sljivic Mirsad<sup>4</sup>, Nejra Hodzic<sup>1</sup>, Marizela Sabanovic<sup>1</sup>

<sup>1</sup> Farmaceutski fakultet Univerziteta u Tuzli, Bosna i Hercegovina

<sup>2</sup> Opća županijska bolnica Požega, Hrvatska

<sup>3</sup> ZADA Pharmaceutical doo Tuzla, Bosna i Hercegovina

<sup>4</sup> JZU Dom zdravlja Živinice, Bosna i Hercegovina

### Sažetak

**Uvod:** Stalna izloženost stresu, neprimjerena prehrana uz nedostatak esencijalnih nutrijenata i protektivnih sastojaka, te unos rafiniranih vrsta hrane mogu se odražavati na zdravlje i izgled kože. Zbog toga je u podršci liječenju nekih bolesti kože značajno preporučiti način prehrane kao i upotrebu dodataka prehrani.

**Cilj i metode rada rada:** Cilj rada je bio prikupiti i analizirati stručne i znanstvene informacije vezane za prehranu i dodatke prehrani koji se mogu koristiti kod najčešćih bolesti kože.

---

**Rezultati i rasprava:** Postoje brojne bolesti i stanja koja se mogu ispoljiti na koži. Najčešće bolesti kože zbog kojih se pacijenti obraćaju liječnicima i ljekarnicima su atopijski dermatitis, akne, ekcemi, psorijaza, herpes te rak kože.

Osim medicinskog tretmana kod liječenja atopijskog dermatitisa i ekcema preporučuje se konzumacija sastojaka iz hrane i dodataka prehrani kao što su: vitamini (piridoksin, askorbinska kiselina i tokoferol), minerali (selen i cink), karotenoidi astaksantin i beta-karoten, a od biljnih preparata konopljika i ulje pupoljke. U liječenju akni najčešće se preporučuju vitamin E, cink i selen, a za herpes lizin, vitamini C i E, mineral cink, te od biljnih preparata krema od matičnjaka i gospina trava.

U tretmanu psorijaze preporučuje se izbjegavanje citrusa, a od dodataka prehrani najčešće se preporučuje konzumiranje ribljeg ulja, omega 3 masnih kiselina, antioksidansa posebno vitamini C i E, minerali selena i cinka, te od biljnih preparata sikavica.

Kod većine ovih bolesti preporučuju se namirnice koje su imunostimulansi kao i hrane koja je bogata antioksidansima, te antimikrobnim sastojcima iz hrane.

Postoje i druge kožne bolesti na koje prehrana može dati doprinos u tretmanu kao što su porfirija, rozacea, te bolesti čiji se simptomi odražavaju preko kože.

**Zaključak:** Prehrana ima važan utjecaj na zdravlje i izgled kože. Dobro odabrani dodaci prehrani u kombinaciji sa zdravom i uravnoteženom prehranom mogu da daju dobre rezultate u podršci liječenju kožnih bolesti.

**Ključne riječi:** koža, kožne bolesti, dodaci prehrani

## INGREDIENTS OF FOOD AND SUPPLEMENTS NUTRITION IN SUPPORT OF TREATMENT OF SIGNIFICANT SKIN DISEASES

Midhat Jasic<sup>1</sup>, Lejla Bedak<sup>1</sup>, Ivan Vukoja<sup>2</sup>, Emilija Spasesa Aleksovska<sup>3</sup>, Sljivic Mirsad<sup>4</sup>, Nejra Hodzic<sup>1</sup>, Marizela Sabanovic<sup>1</sup>

<sup>1</sup> Faculty of Pharmacy, University of Tuzla, Bosnia and Herzegovina

<sup>2</sup> Požega General Hospital Pžega, Croatia

<sup>3</sup> ZADA Pharmaceutical doo Tuzla, Bosnia and Herzegovina

<sup>4</sup> JZU Zivinice Health Center, Bosnia and Herzegovina

### Abstract

**Introduction:** Constant exposure to stress, inadequate nutrition with a lack of essential nutrients and protective ingredients, and intake of refined foods can affect the health and appearance of the skin. Therefore, in support of the treatment of some skin diseases, it is important to recommend diet and the use of dietary supplements.

**Objective and methods of work:** The aim of the paper was to collect and analyze expert and scientific information related to nutrition and nutritional supplements that can be used in the most common skin diseases.

**Results and Discussion:** There are numerous diseases and conditions that can be expressed on the skin. The most common skin diseases that cause patients to see doctors and pharmacists are atopic dermatitis, acne, eczema, psoriasis, herpes and skin cancer.

In addition to medical, for treatment of atopic dermatitis and eczema, recommended to consume food ingredients and dietary supplements such as: vitamins (pyridoxine, ascorbic acid and tocopherol), minerals (selenium and zinc), carotenoids astaxanthin and beta-carotene, and from herbal preparations *Mary goldflower* and *Primrose Evening* oil. Vitamin E, zinc and selenium are most commonly recommended in the treatment of acne, while for herpes lysine, vitamins C and E, mineral zinc, and from herbal preparations, *Balm beaves* and *St. John's wort*.