

Introduction

Psoriasis is a chronic inflammatory disease, which can be affected by genetics, environment, diet and immunological factors. People observe periods of spontaneous regressions followed by relapses. Therefore, people that have psoriasis the following things are recommended:

- Get a Body weight assessment, which includes fat and muscle mass.
- A BMI assessment, however, this is not ideal as it does not take into account body composition and body fat distribution.
- Assess the ratio between waist and hip (WHR).
- Fasting blood glucose determination at least once a year.
- More frequent testing for hypertension
- Determination of serum lipids.
- Determination of serum uric acid and liver enzymes.
- in patients with other cardiovascular risk factors (e.g., hypertension, obesity), performing an Oral Glucose Tolerance Test (OGTT).

The purpose of this article is to discuss recommendations for people with psoriasis to try help improve mental and physical health.

Factors

Even though psoriasis is flared up by immune disorders. Genetic and environmental factors also play a part in the disease. The environmental factors that can influence the development and severity to escalation of lesions are:

- Physical factors (X-Rays, surgical procedures, vaccinations, tattoos, insect bites, abrasions, burns, sunburns, acupuncture, UV irradiation).
- Chemical burns or tropical treatments.
- Skin diseases (rosacea, fungal infections, allergic contact dermatitis).
- Infections (streptococcal pharyngitis, viral).
- Medications (enzyme inhibitors, lithium, non steroidal anti-inflammatory drugs).
- Diet, tobacco smoking and alcohol consumption.

However, there is also a connection between psoriasis and metabolic/cardiovascular diseases.

Obesity and Low Energy Diet

One example is having a BMI over 29kg/m² doubles the risk of developing psoriasis. People should concentrate on reducing body mass as this lowers blood serum inflammatory. This can be achieved by a low-energy diet combined with regular physical activity and possible psychological support.

A low-energy diet (20 kcal/kg of ideal body weight/day) with omega-3 supplementation in patients with psoriasis and obesity can improve the metabolic profile. Additionally, it increases the effectiveness of immunomodulatory treatment, which leads to a reduction in psoriasis and improvement of the quality of life.

The diet should increase dietary fibre intake, which can help reduce oxidative stress. Fibre is contained in plant products such as vegetables, fruit, and whole grain cereals. Alongside this, the diet should focus on low glycemic index foods (whole grain cereals, unprocessed vegetables and selected fruits), mainly due to the more frequent occurrence of metabolic diseases. Carbohydrate products with a high glycemic index (refined sugar, sweets, honey, sweet drinks, fruit preparations, some fruits, white bread, plain pasta, white rice, potatoes) should be avoided.

A diet that is characterised by a high consumption of vegetables, cereals, legumes, fish, fruit, and nuts is the mediterranean diet. This means consumption of meat, dairy products, and eggs is limited. Animal fats such as butter, cream, and lard are not included in this diet. Within this diet it is recommended to consume small amounts of wine with meals.

Lastly, an important thing to note is extra virgin olive is the main source of fat in this diet, which will be talked about in the next section.

Fatty Acids

As stated, involving omega-3 supplementation can really help. This is a fatty acid and these play an important role. A diet rich in saturated fatty acids found in animal products can increase the risk of cardiovascular diseases. In contrast, consumption of unsaturated fatty acids can reduce the risk of immunometabolic diseases.

People should ensure they are using extra virgin olive oil, which is a great source of oleic acid. This acid is a monounsaturated fatty acid and protects lipoproteins and cell membranes against harmful oxidative effects.

Omega-3 acids have an anti-inflammatory effect, while acids from the omega-6 family have a pro-inflammatory effect. That means diets should be rich in omega-3 fatty acids, while omega-6 acids should be limited. Additionally, Omega-3 have an anti-diabetic effect and they substrate in the process of synthesis of serotonin and dopamine and are shown to have an antidepressant effect.

The daily amount of these fatty acids should be about 1–2 g. Such products include: fatty marine fish (herring, sardines, salmon, tuna, mackerel), seafood, vegetable oils (rapeseed oil, linseed oil, walnut oil), and nuts (mainly walnuts). In contrast, animal fats (saturated fatty acids) and industrial (trans) fats, present, e.g., in stick margarine, highly processed foods, and confectionery products, should be avoided.

Omega-3 should be taken with a meal in order to increase absorption in the intestinal mucosa. One way to improve intake is via marine seaweed. This product has a sustainable source of bioactive lipids with high concentrations of omega-3 fatty acids. Seaweed directly to the patient's skin also has a beneficial effect on the course of dermatosis. Blue Lagoon seaweed extract has a biological effect on the skin, influences the expression levels of mRNAs that are relevant for melanin synthesis, and reduces unevenness in skin pigmentation.

Vitamins

There is a widespread vitamin D deficiency in European countries. As estimated, vitamin D deficiencies affect 50% of people with psoriasis in summer and unto 80% in the winter. Vitamin D is supplied through ultraviolet rays and is hard to come by via dietary, so supplementation is recommended.

Supplementation of 1000 IU of vitamin D₃ per day can lead to an increase in serum 25(OH)D levels to about 10–20 ng/mL. The European Food and Safety Authority (EFSA) has defined the tolerable upper level intake (UL) of vitamin D for adults as 4000 IU per day. Supplementation with this vitamin should be preceded by determination of serum 25(OH)D concentration. These tests should be repeated after 2–3 months to assess the effectiveness of supplementation and adjust the dose if necessary.

Another thing to note is too high doses of vitamin D should not be used due to the risk of hypercalcaemia or hypercalciuria. For the same reason, supplementation with this vitamin is not practised in patients treated topically with vitamin D analogues.

The last part about vitamins is that diets that are rich in vitamin C, β -carotene, and flavonoids, which includes green vegetables, carrots, tomatoes, and fruit, helps improve skin lesions. Therefore, persons with psoriasis should increase the intake of fresh fruit and vegetables as well as include polyphenol-rich products such as tea, coffee, herbs, and spices in their diet.

Probiotics

Human health is closely related to changes of gut microbiota. Microbes affect how the body fights off germs, controls immune activity and digest food. Additionally, it can influence mood and psychological processes.

Probiotics are living microorganisms that occur in certain foods. They feed good bacteria in the gut. Healthful micro-organisms support the functioning of the immune system, which can help control symptoms of psoriasis. However, every person's microbiome is different, so it's hard to tell exactly what disturbances causes psoriasis.

Consuming probiotics to their diet is an option by consuming foods such as: Yoghurt, kefir, kombucha, fermented cheeses, pickles, miso or fermented vegetables. Another way is getting supplements and specific probiotics, which help with lower inflammation. These are called:

- Lactobacillus Acidophilus
- Bifidobacterium bifidum
- Bifidobacterium lactis and Bifidobacterium langum

Coffee

Coffee has arabinogalactan proteins, which have an immunosuppressive effect, stimulating splenocytes and peritoneal macrophages, resulting in a reduction in skin inflammation and reducing the severity of allergic reactions.

One thing to remember about coffee is the component of caffeine, which does inhibit the release of pro-inflammatory cytokines and release of anti-inflammatory markers. Although, too much consumption of caffeine include anxiety, abdominal pain, seizures, increased blood acid, irregular or fast heartbeat and reduced blood flow to heart.

Regular moderate coffee consumption (up to 3 cups per day) can alleviate psoriasis symptoms and has an anti-inflammatory effects. Whereas higher coffee consumption (especially >4 cups of coffee per day) exacerbates clinical symptoms of psoriasis, which is associated with an increase in pro-inflammatory substances.

Takeaway points

- Genetic and environmental factors affect psoriasis.
- High body fat = more likely to have more severe lesions.
- Calories equated, simple sugar intake make skin lesions worse than low glycemic fibre-rich foods.
- Inflammation is core contributor to psoriasis. Finding the root cause and lowering it is key.
- Diets rich in fruits and veg improve. Mediterranean diet recommended.
- Excess consumption of OMEGA 6 to 3 has impact on severity.
- Omega 3, antioxidants, carotenoids, flavonoids, selenium, and vitamins A/C/E are beneficial.
- Vitamin D deficiency increases risk for psoriasis, during winter symptoms intensify.
- Specific probiotics lower all inflammatory. These are Lactobacillus Acidophilus, Bifidobacterium bifidum, Bifidobacterium lactis and Bifidobacterium langum.
- Small amounts of coffee consumption can help.