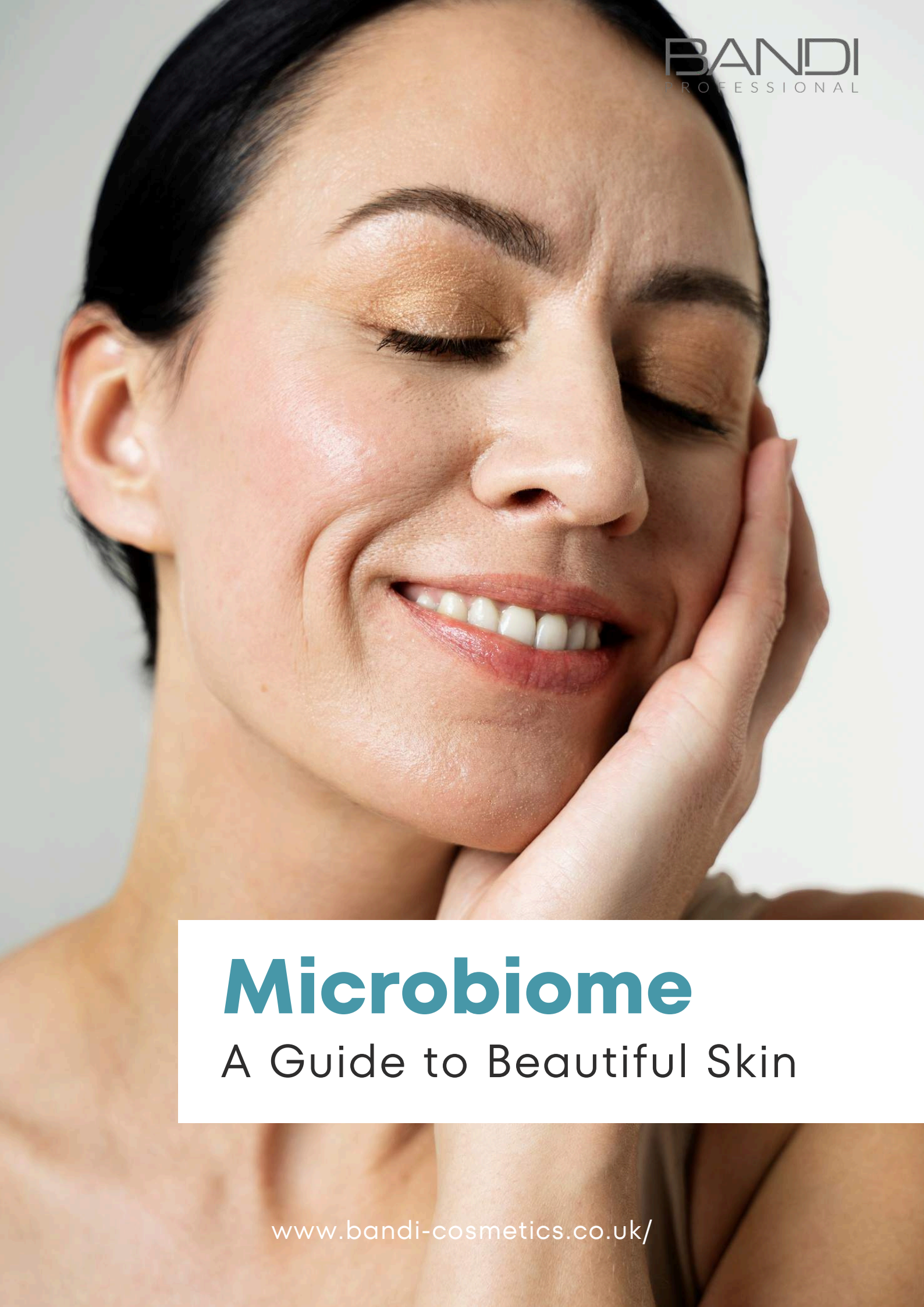

BANDI
PROFESSIONAL

Microbiome

A Guide to Beautiful Skin

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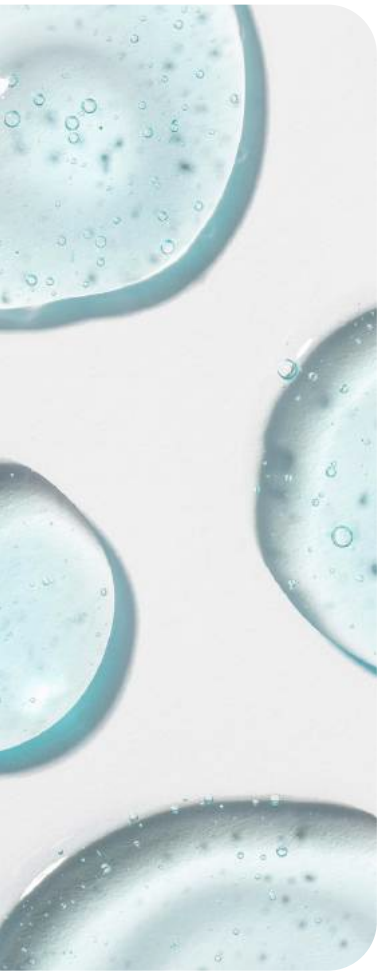
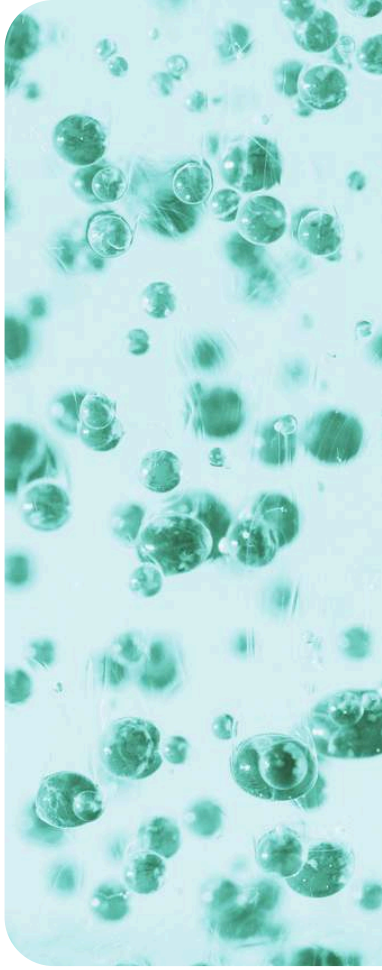


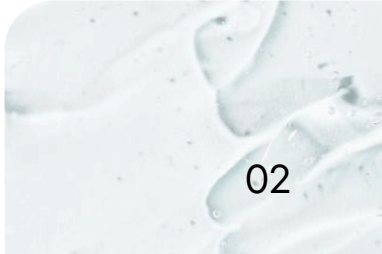
Did you know that your skin has company and it is the microenvironment found on its surface that plays a huge role in maintaining a healthy and radiant complexion?

From this ebook you will learn, among other things:

- What exactly is the microbiome and why is it so important for skin health and well-being?
- Do microbiome, microbiota and microflora mean the same thing?
- What does the skin's hydrolipid coat have in common with the microbiome?
- How do cosmetics with probiotics and prebiotics work?

And much more!





SPIS TREŚCI

Learn to take care of your little allies and see the great benefits it will bring to your skin! In the e-book you will find proven information on dermatology, cosmetic technology and cosmetology.
Change your approach to beauty to a professional one and feel the difference!

1. The invisible micro-world

We mainly associate bacteria with disease and the danger they bring with them. However, there are also bacteria that are *our allies*. We can meet them, for example, in the digestive tract or on our skin, where together with viruses, fungi and mites they form the microbiome. This extraordinary micro-world consists of millions of creatures that coexist with us and under normal conditions do us no harm. What's more, we need them very much!

A. Microbiome, microbiota, microflora - are they the same thing?

The terms "microbiome," "microbiota" and "microflora" are often used interchangeably to refer to the microorganisms that reside in our bodies. However, there is a difference between the two. The oldest term from the above mentioned is "microflora." This term was mainly used to refer to the digestive system (intestinal microflora) and originally referred primarily to bacteria. Today, once we know that not only bacteria reside in our bodies, the term "microbiota" is far more commonly used, i.e. the totality of microorganisms such as bacteria, viruses, fungi and other microorganisms that inhabit a particular area of the body (e.g. gut microbiota, skin microbiota).

So what is the microbiome? This is the most common term. **Microbiome is a term that refers to the collective genome of all microorganisms** residing in the body and the surrounding environmental conditions, including the metabolites produced.

Microbiome and microbiota are the terms most commonly used today. The difference between the two is subtle, which explains their sometimes interchangeable use.

B. Microbiota in numbers

Did you know that...?

- In a healthy adult, the microbiome can weigh up to 2kg!
- The number of microorganisms in our body is 10 times more than cells!
- There are about one million microorganisms per 1cm2 of skin!
- The skin microbiome includes about 1,000 species of bacteria, 80 types of fungi, mites and viruses!

This micro-world, invisible to the naked eye, is therefore a not insignificant part of our body, which research indicates has a huge impact on its functioning. This also applies to our skin.

Recent studies show that the microorganisms living on our skin, their interactions and the metabolites they produce, control many physiological processes:

- increase the skin's resistance to external factors,
- limit the possibility of the proliferation of pathogens,
- help control inflammatory processes and oxidative stress,
- facilitate the maintenance of the appropriate pH on the skin surface,
- help regenerate epidermal cells and maintain proper hydration levels.

C. The skin microbiome is not fixed

It is said that the microbiome is like fingerprints, distinctive and slightly different in each of us. Within the skin, **the type and number of microorganisms present also varies from place to place**. This is because some microorganisms prefer to inhabit moist areas of the skin (e.g., Gram-negative bacilli, Staphylococcus aureus), others have a taste for lipid-rich areas (e.g., Cutibacterium acnes, Malassezia spp.), and still others survive in dry areas despite the fact that this is usually an unfavorable environment for growth and multiplication. This is why the microbiome of the face differs from that on, for example, the skin of the calves or the armpit area.

Prof. Magdalena Ciupinska, M.D., Ph.
specialist dermatologist-venereologist,
specialist in health care organization

The skin microbiome is modified throughout our lives. Immediately after birth, the skin is populated with microorganisms from the environment. Gradually, depending on conditions, different microorganisms appear on it. The microbiota changes with age. It is also dependent on:

- *gender,*
- *the way we eat,*
- *the state of our health,*
- *various medical conditions,*
- *medications taken,*
- *the area of the skin (dry area, moist area, sebum-rich area), occupation, clothing worn,*
- *grooming,*
- *from a wide variety of environmental and social factors.*

The composition of the microbiome depends on:

- *thickness of the epidermis,*
- *presence and activity of sebaceous glands, sweat glands, hair follicles,*
- *the humidity of the body,*
- *body temperature.*

The state of the skin microbiome is clearly influenced by factors:

- *environmental (UV radiation, pollution, temperature changes)*
- *our lifestyle (improper care, unbalanced diet, stress).*

The result of their impact can be the destruction of our little allies and disruption of the microbiological balance on the surface of the skin. The effects we all know well! This is an "epidemic" of hypersensitive skins, constant acne problems, including in adults, or susceptibility to skin allergies.

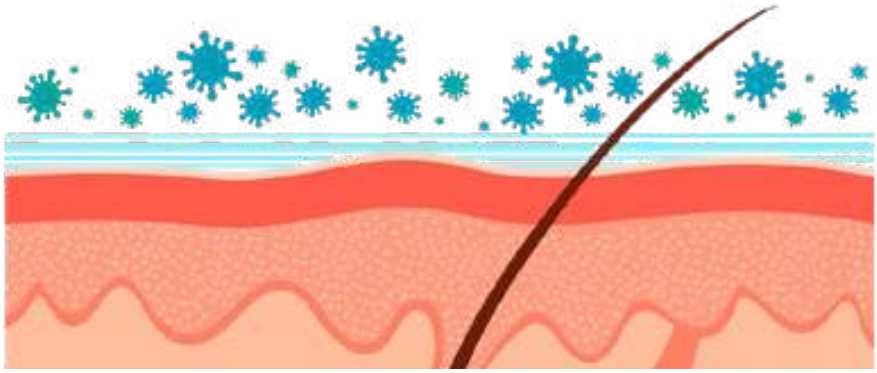


Diagram 1. A simplified diagram of the top layer of the epidermis

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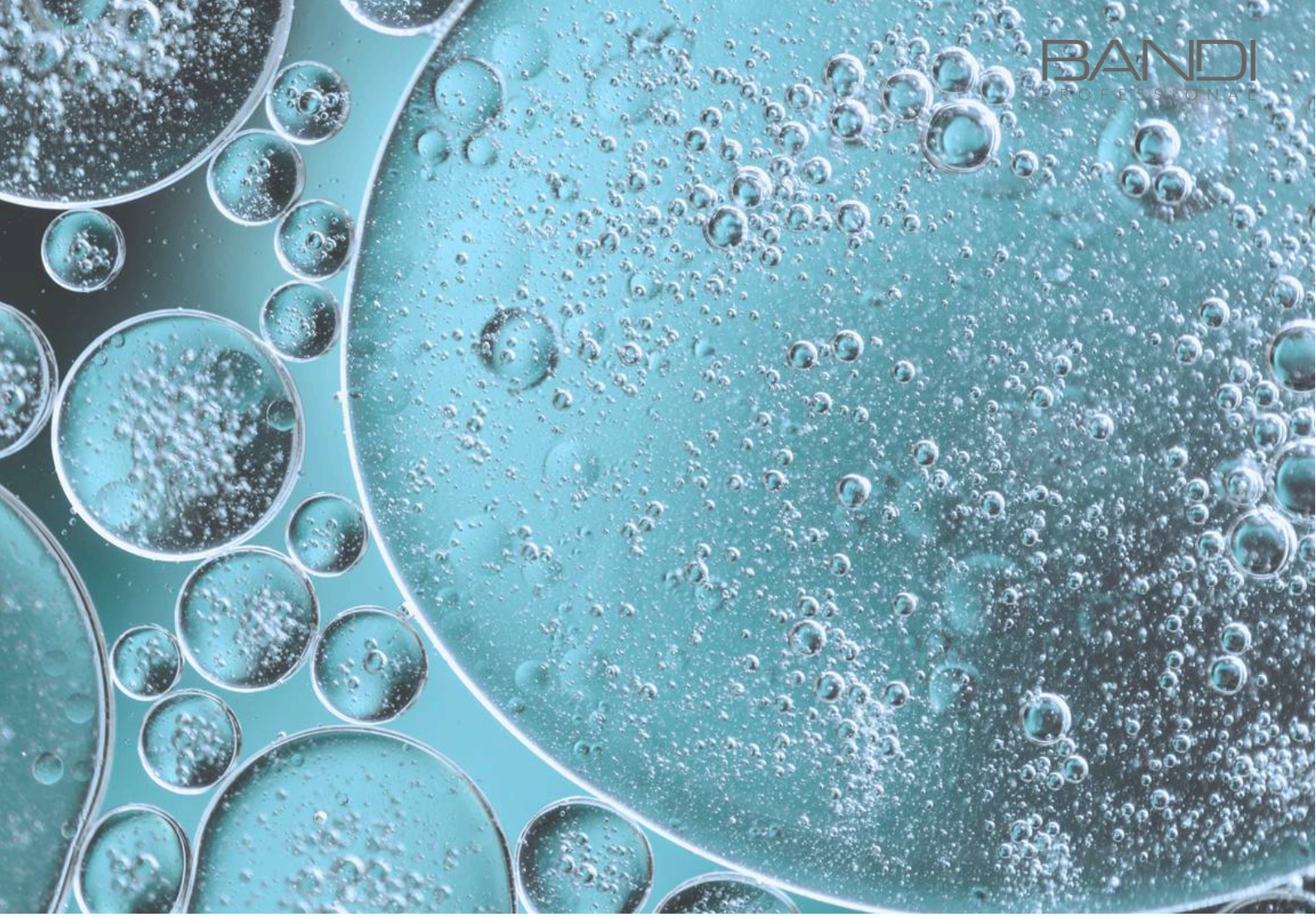
Interesting fact:

Our skin is mainly inhabited by bacteria of the types Actinobacteria, Firmicutes, Bacteroidetes Proteobacteria. Among the most common fungal species are lipophilic fungi of the genus Malassezia. Mites of the nuisance mite group also live within the sebaceous glands and hair follicles. Viruses are also part of the microbiota: polyomaviruses and papillomaviruses.



2. Skin homeostasis and the role of the microbiome

The microorganisms living on our skin are the first line of defense against pathogen invasion. It's a bit like our permanent tenants not allowing new ones to move in anymore. This action is also made possible by the production of antimicrobial acting substances (bacteriocins) and the consumption of nutrients necessary for the growth and multiplication of pathogenic microorganisms.

The microbiota is also involved in shaping adaptive immunity by regulating the local production of cytokines. Microorganisms living on the surface of the epidermis can produce various substances that affect skin processes, e.g. sebum secretion, stratum corneum exfoliation, maintenance of proper pH. The correct state of the microbiome is therefore very important for maintaining the health and well-being of the skin. Any deviation from balance can result in deterioration of the complexion.

Studies confirm that in many skin diseases (e.g., acne vulgaris, rosacea, seborrheic dermatitis, atopic dermatitis) the state of the microbiome is abnormal (dysbiosis).

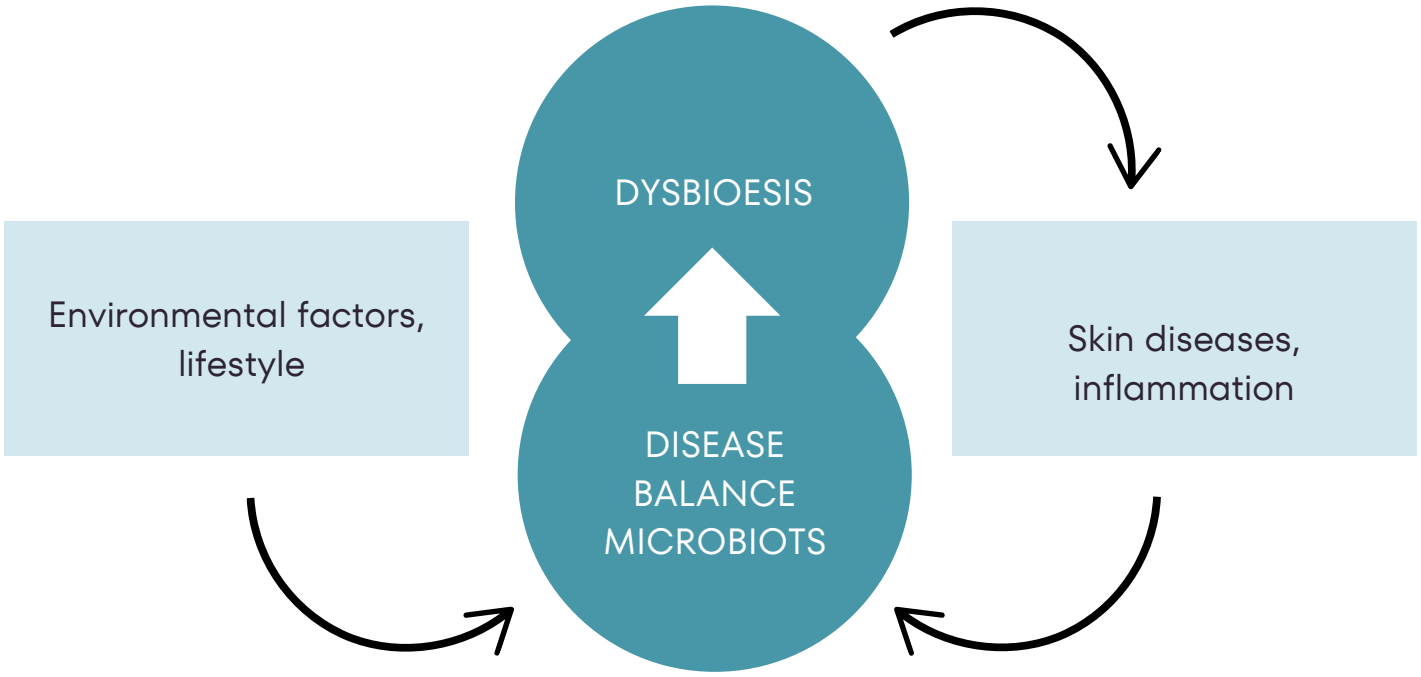


Diagram 2. Microbiome imbalance

Expert statement:

Ilona Kiraga, MA
cosmetologist, trainer, lecturer, author of numerous publications in the trade press.

Due to its structure and function, the skin is not a very friendly environment for the growth of microorganisms. The constant exfoliation of the stratum corneum, its dryness and the presence of a reduced pH mean that not all microorganisms can reproduce and grow freely. On the one hand, this is beneficial, as it allows only certain species of microorganisms to exist. On the other hand, however, with the occurrence of certain unfavorable factors, the microbiome and the protective functions it performs can very easily be disrupted.

3. Take care of the skin's hydrolipid mantle

The proper state of the hydrolipidic mantle has a huge impact on the appearance of the complexion. Firstly, **it limits excessive water loss from the deeper layers of the skin, thus protecting it from dehydration, abnormal exfoliation and roughness**. In addition, it limits the negative impact on cells of unfavorable environmental factors, e.g. wind, frost, dry hot air. The hydrolipid mantle also allows the skin surface to maintain an appropriate, slightly acidic pH. This is of great importance, as it allows beneficial microorganisms (microbiome) to grow on the skin, and limits the growth of pathogenic microorganisms.

Conclusion: if the skin's hydrolipid barrier is disrupted, the microbiota is also at risk of becoming out of balance!

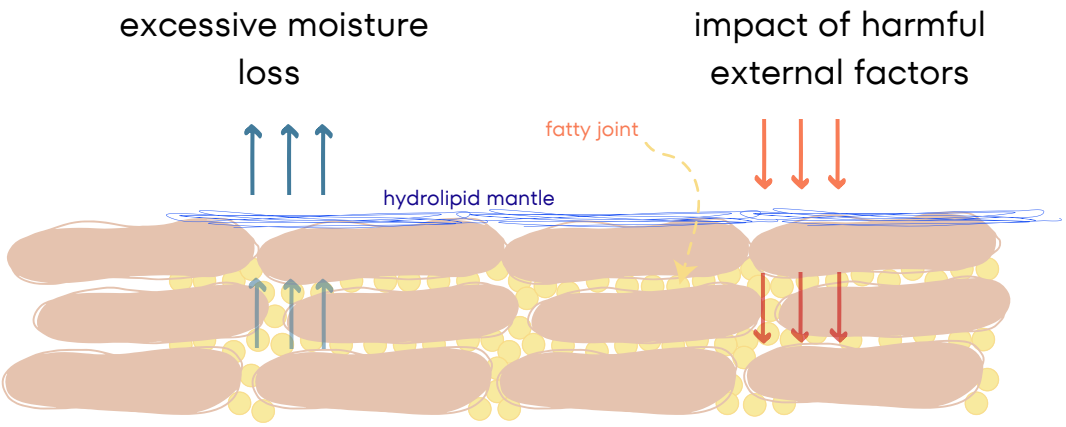


Diagram 3. Simplified diagram of the structure of the hydrolipid barrier.

Damage to the skin's hydrolipid mantle often occurs at the stage of makeup **removal and cleansing.** When we reach for cosmetics containing strong degreasing surfactants, we also remove the water and fat layer from the skin surface, forming the hydrolipid mantle. The result is a feeling of tightness and burning of the skin after makeup removal. Did you happen to feel something like this right after cleansing? If so, it's a sign **that it's worth reaching for cosmetics that effectively cleanse the skin while being gentle on its hydrolipid mantle.**

Emollient cleansing butter 2-in-1

Rebuilding the natural hydrolipid mantle is not always easy. In the course of some diseases such as AD, psoriasis may require time and patience. In addition to gentle cleansing in care, it is then worth reaching for cosmetics with **ceramides, squalane, cholesterol esters**.

This is worth knowing!

The condition, condition and appearance of the skin depends on many factors. One of them, extremely important, is the **state of the skin's hydrolipidic layer**. Often, when choosing care, we focus on ingredients that are supposed to work deep into the skin, we use various methods to improve their penetration (sometimes quite aggressive), and it turns out that the appearance of the skin is not improved. In this case, it is worth focusing your attention on what condition the hydrolipidic mantle present on the surface of the skin is in.

4. Strengthen skin immunity

If you notice that lately your skin has become dry, rough, red, maybe even it pinches or burns, or it becomes more oily and imperfections have started to appear on it, this is a sign that the microbiome may not be in the best shape.

Remember!

The microbiome is a very delicate "living organism." Everything you do with your skin affects it, so your skin care should be well thought out and considerate.

Some tips:

- **For makeup removal and skin cleansing**, choose mild products that will effectively remove makeup, cosmetics with filters and impurities, while not disturbing the protective epidermal barrier.

- Remember to **use a toner after makeup removal** to restore the skin's proper pH - the microbiome is very sensitive to pH changes on the epidermal surface.

- **Exfoliate your skin judiciously**. In this case, more is not better. If you use a sonic brush or konjac sponge at the same time when removing makeup, check whether you exfoliate your skin too often. This can hinder the balance of the microbiome,

- **Take care of your skin's hydrolipidic barrie**r, which is essential for the existence of "friendly" microorganisms,

- **Use cosmetics rich in probiotics and prebiotics**, which help the growth of beneficial microorganisms that populate the skin surface.

Expert statement:

Emilia Wilczynska, MA
BANDI Technologist

Prebiotics *are non-absorbable substances that are introduced into the cosmetic to stimulate the development of normal microflora on the skin surface. They also provide food for the bacterial microflora residing on our skin. They stimulate strains of probiotic bacteria, among others, to grow and become active. Prebiotics include poly- and oligosaccharides, such as inulin.*

Probiotics *are non-pathogenic, inactive, beneficial microorganisms that, when supplied in adequate amounts, stimulate the skin's immune defenses. Among the popularly used probiotics in cosmetics, we can distinguish the following strains of bacteria and fungi: Lactobacilus, Saccharomyces, Bacillus, and Bifidobacterium. Their action consists primarily in inhibiting the development of pathogenic microorganisms, maintaining the appropriate acidic pH of the skin, stimulating the renewal of the hydrolipidic mantle, producing substances that show antimicrobial activity and stimulating the immune system. It was discovered that an extremely effective effect is obtained when prebiotics and probiotics are combined in a single product.*

Interesting fact:

For safety reasons and to ensure formula stability, live cultures of probiotic bacteria are not used in cosmetic products. **The most commonly used are so-called lysates, i.e. dead microorganisms (e.g., heat-treated, which inhibits their ability to multiply) or their fragments**. Although microorganisms administered in this way are not alive, they still retain their biological activity. This is because they can induce a biological response in the skin to the presence of components that build their cells, such as cell membranes.

5. Meet the Microbiome Care line

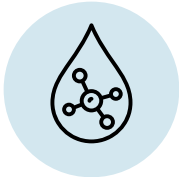
You already know how important it is to take care of the balance of the skin microbiome. Now we will tell you how you can take care of your skin by introducing cosmetics with pro- and prebiotics from the **Microbiome Care line.**

The active ingredients that, in addition to **pro- and prebiotics**, you will find in the Microbiome Care line are:

- **Bacuchiol** - is referred to as a natural replacement for retinoids due to its multidirectional effects. Like it, it is an effective rejuvenating and anti-acne ingredient. It has a gentle effect on the skin, so it is also recommended for people with sensitive skin.

- **Phytoceramides** - contain omega-3, omega-6 and omega-9 essential fatty acids (EFAs) and the precursor to epidermal ceramides. They exhibit moisturizing and regenerative properties, improve the condition of the skin, strengthen its protective barrier and resistance to harmful external factors, such as UV radiation and environmental pollution.

- **Trehalose** - a disaccharide with moisturizing and soothing effects. Increases water reserves in the epidermis in accordance with the natural process of cell osmosis.



- **Carnosine -** is a dipeptide that has strong antioxidant and anti-inflammatory properties. It increases skin elasticity, reduces wrinkles and improves skin tone. It also helps fight free radicals and protects the skin from harmful external factors.

- **Bamboo bioferment** - an ingredient derived from specially cultured bacterial cultures due to fermentation of bamboo extract. It is rich in nutrients, minerals and vitamins. It has soothing, moisturizing and antioxidant properties.

A. Which formulation choose?

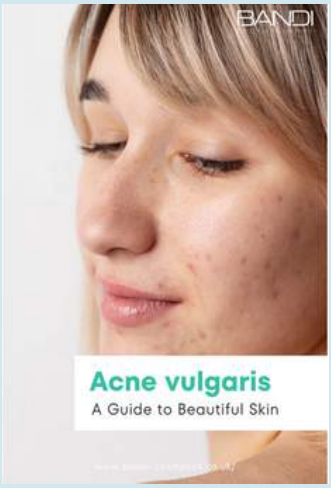
Do you already have proven favorite cosmetics? Don't want to give them up? You don't have to. **Supplement your existing care** with a product of your choice from the **Microbiome Care line and see how great the results will be for your skin**.

The **Microbiome Care line** are cosmetics that were created from the combination of science and nature. Introducing them to your skin care, will bring amazing results on your skin and increase the effectiveness of your existing care.

Every skin, whether dry or oily, sensitive or acne-prone, mature or vascular, needs strengthening and care for the microbiome. That's why in the **Microbiome Care line** you'll find cosmetics with different textures, so that you can best match them to the current condition of your skin.

For combination and acne-prone skin:

Acne is one of those skin diseases in which there is a **marked imbalance of the microbiome**. This phenomenon is further exacerbated by applied dermatological treatments and therapies using acids, retinoids, antibiotics, etc. Although they are helpful in reducing the causes of acne lesions, such as excessive sebum secretion, increased keratinization of the epidermis, they also indirectly lead to the elimination of beneficial microorganisms for the skin.



Did you know that proper acne skin care is the basis for dealing with imperfections?

From this e-book you will learn, among other things:

- How to effectively reduce imperfections?
- About proper skin care that supports healing.
- What impact do diet and stress have on the course of acne?
- Is acne a disease that affects more than just the skin?

DOWNLOAD E-BOOK ACNE

With acne-prone skin, the use of cosmetics that strengthen the microbiome is absolutely essential! However, the chosen cosmetic should have a light non-comedogenic texture so as not to unnecessarily burden the skin.

Emulsja probiotyczna intensywnie nawilżająca

bioferment bamboo

squalane

trehalose

shea butter

Dry, normal skin with a disrupted epidermal barrier:

As we have already mentioned the beneficial microorganisms living on our skin need the right conditions for life. Dryness of the skin, disruption of the protective hydrolipidic barrier is not conducive to their growth and multiplication. This, in turn, creates conditions for easier penetration of pathogens, which are a common cause of allergies, irritation and accelerated aging.

If you notice symptoms on your skin that may indicate damage to the hydrolipidic mantle, or **if you are exposed on a daily basis to factors that violate the microbiome and the protective epidermal barrie**r (exposure to UV radiation, polluted air, blue radiation from computer screens), strengthen your skin with proper care.

Barrier cream intensively regenerating

bioferment from bamboo

pre- and probiotics

allantoin

d-panthenol

For all skin types:

What absolutely **every skin type needs is hydration and sun protection**. If you want to keep your skin in good shape for longer, delay the aging process, reduce the risk of hyperpigmentation, telangiectasia, moisturize and protect your skin every day. Two cosmetics will help:

S.O.S. Concentrate deeply moisturising

Which you can use under your favorite skin care cream.

bioferment from bamboo

pre- and probiotics

hyaluronic acid

trehalose

Probiotic SPF30 cream intensively moisturising

which you can also apply to the area around the eyes. This is a very delicate area of facial skin that needs special protection from UV rays and strengthening of the microbiome. Keep it in mind in your skin care!

bioferment from bamboo

pre- and probiotics

carnosine

d-panthenol

Below is our suggestion for cosmetics from the **Microbiom Care line**. The final choice of product depends on, among other things, your preference for consistency and use, as well as your overall skin care routine.

Sensitive skin					
Product	**Dry skin**	**Normal skin**	**Oily skin**	**Exceptional action Product**	**Common effect of all cosmetics**
Probiotic emulsion intensively moisturising	-	-	yes	Excellent enhancement of anti-acne care.	Strengthening the hydrolipid barrier and the skin's natural microbiome.
Barrier cream intensively regenerating	yes	yes	-	Ideal for complexions requiring immediate reduction of dryness, roughness, tightness and severe dryness.	
S.O.S. Concentrate deeply moisturising	yes	yes	yes	A moisturizer under SPF, makeup or your favorite skin care cream that does not weigh down your complexion.	
Probiotic SPF30 cream intensively moisturising	yes	yes	yes	Protection against UVA, UVB, HEV, IR and free radicals	

B. Opt for skin care duos

Wondering which cosmetics are best to combine the **Microbiome Care line** with? Explore our suggestions for proven care duos.

Challenge - acne, combination, oily skin

Our bestsellers **NEW**

Salicylic acid is one of the most effective substances in the fight against acne. This has to do with its lipophilic nature and its ability to penetrate deep into the sebaceous gland, which is cleansed from the inside of residual horny masses and excess sebum. Studies indicate that the anti-acne effects of salicylic acid can be enhanced by using its combination with bacuchiol.

Besides pre- and probiotics, bacuchiol is the main active ingredient in Probiotic Emulsion. Including it in acne care will therefore significantly increase the effectiveness of the treatment.

Challenge - dry, dehydrated skin, after treatments

or

+

Our bestsellers **NEW**

Any of us may periodically face dry skin. If this condition is temporary and not associated with an innate deficiency of epidermal lipids, it most often results from damage to the protective hydrolipid mantle, resulting in excessive transepidermal moisture loss. This problem also often affects vascular skin, which is more vulnerable to the negative impact of external factors through disruption of barrier function. Introducing a barrier cream with phytoceramides into the care will strengthen the skin's resistance and help maintain an adequate level of moisture.

Challenge - SPF protection for sensitive complexions (with various skin problems)

Our bestsellers **NEW**

UV protection is essential during acid treatments, but also the best prevention against accelerated aging, the formation of hyperpigmentation and uneven skin tone. If you use acids **Probiotic SPF 30 Cream** will not only protect your skin from the sun, but also strengthen the microbiome, which is usually disrupted during such treatments. If you reach for the SPF30 Probiotic Cream in combination with **vitamin C** you will increase the effectiveness of anti-aging care and reduce the appearance of hyperpigmentation faster.

Challenge - change of environment, travel, intense time, regeneration of sensitive skin (with various skin problems)

Our bestsellers **NEW**

If you are using one of our bestsellers Strongly Moisturizing Emulsion or Intensive Moisturizing Cream, complement its effect with **S.O.S. Deep Moisturizing Concentrat**e. You will feel that your skin is moisturized and smooth as never before. With regular use of such a duo, you will protect your skin from accelerated aging and reduce its tendency to irritation. You will also see how quickly it will regain a radiant appearance.

This is worth knowing!

The duos listed above are just a few tried-and-true suggestions for introducing the Microbiome Care line into skin care. However, there are definitely more combinations and possible combinations. In fact, the Microbiome Care line blends perfectly with most of the cosmetics in our offer, complementing their action.

6. What else can you do for your allies?

Proper, thoughtful skin care is of paramount importance for a healthy microbiome. However, that's not all you can do to boost your skin's immunity.

A. Diet

The influence of the foods we eat on the appearance and condition of our skin has been talked about more and more recently. Although each of us is different and the issue of diet should be treated very individually, studies show that what we eat can affect not only the gut microbiota, but also the skin microbiota.

What to avoid:

- Highly processed foods and fast food,
- Foods with a high glycemic index, e.g. confectionery, chips, crackers, carbonated beverages, refined sugar,
- Artificial sweeteners, including those added to salad dressings, prepared snacks, beverages,
- Processed fats such as margarine, watch out for their addition to many ready-made baked goods.

Include these in your diet:

- Whole fruits and vegetables,
- Healthy fats e.g. olive oil, seeds, nuts, fish,
- Grains with a low glycemic index: wild rice, barley, oatmeal,
- Products rich in probiotics: kefir, yogurt, cheese, sauerkraut, pickles,
- Products rich in prebiotics: leek, cabbage, asparagus, garlic, onions.

Remember:

You don't have to give up sugars completely. If you reach for dark chocolate, and choose honey, stevia or unrefined brown sugar to sweeten your coffee or tea, it will not harm your skin. Remember, however, that these types of products should appear in your diet from a small amount.

B. Stress

An extremely unfavorable factor for the state of the microbiome is stress. It intensifies the production of cortisol (called the stress hormone) in our body, which induces inflammation.

But how not to get stressed?

You need to know that short-term stress is good for us. According to the primal reflex "run or fight", it allows us to avoid some dangerous situations or mobilizes us to act and often also to grow. The problem is long-term stress, which induces chronic inflammation. Studies show that it can aggravate the symptoms of certain skin diseases, for example, acne vulgaris, rosacea, psoriasis, atopic dermatitis, seborrheic dermatitis. And disruption of skin homeostasis plays a significant role in this.

This is worth knowing!

Stressful situations in life cannot be eliminated. However, we can take care to balance them with what relaxes us, what gives us pleasure, allows us to ward off a flurry of thoughts and negative emotions. It will be something different for each of us. If you have a moment think about it now. When was the last time you did something pleasant, relaxing for yourself? Remember that the state of your microbiome also depends on it.

The microbiome is your natural protective shield. If you think about it every day and support it, your skin will repay you with a radiant appearance. Reach for **Microbiome Care** cosmetics and see how a small change in your skin care will bring great benefits to your skin.

7. Questions and answers

1. Are Microbiome Care cosmetics suitable for all skin types?

Every day we are affected by many negative external factors that can disrupt the balance of the microbiome. Therefore, every complexion needs to strengthen its natural protective barrier. All cosmetics from the Microbiome Care line support beneficial microorganisms living on our skin, but individual preparations differ in consistency and complementary active ingredients. As a result, every complexion will find the right cosmetic for itself.

2. I already have my well-chosen skin care and do not want to change it. How to supplement it with cosmetics that support the microbiome.

The simplest solution is to include **S.O.S. Deep Moisturizing Concentrate** in your care. This is a cosmetic that will be perfect to apply under any cream.

3. Can cosmetics from the Microbiome Care line also be used on the area around the eyes?

Yes, each of the cosmetics included in the line can also be applied to the area around the eyes.

4. Wwill the sunscreen from this line be suitable for combination and oily skin?

SPF 30 probiotic intensive moisturizing cream is a cosmetic with a unique texture. Despite providing broad-spectrum, high sun protection, it has a light texture that does not leave a greasy layer after application. Thus, it will also work well for combination and oily-prone complexions.

5. Isn't the SPF 30 factor too low for skin protection from the sun?

The **SPF 30 filter blocks about 97% of UVB** radiation, which is the main cause of sunburn. It additionally protects against UVA, IR and HEV radiation. With proper application (proper amount of product, reapplication), it will provide the skin with high protection against radiation.

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