Description

Skin Microbiome

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Published in The Practising Midwife Volume 26 Issue 06 June 2023, Page 19

https://doi.org/10.55975/ABFH1543

Our skin, together with its microbiome, protects us from external influences. If the bacteria on our skin are in equilibrium, the skin can optimally fulfil its protective functions.

The unique protective function of our skin

With its surface area of one to two square metres, our skin forms an important barrier to the outside world – making it our outermost protective layer. It forms our boundary to the outer world and shields us from external influences. It also prevents excessive fluid loss. In order for the skin to fulfil its protective functions optimally, not only the processes in the skin but also its interaction with the microbiome – also known as the skin flora – need to function well.

The human microbiome

The human microbiome refers to all the microorganisms (including bacteria, viruses, fungi and other microbes) that live inside and on the surface of the human body, in symbiosis with us. These microorganisms play a crucial role in maintaining human health, including aiding digestion, regulating the immune system and preventing harmful bacteria from taking over.

Our skin flora, the skin microbiome

Every human being harbours approximately as many microorganisms as body cells – about 20 to 40trillion. However, the number can vary greatly – for example, due to the use of antibiotics. These microorganisms live in and on different parts of our body, such as on the skin, in the mouth or in the intestines. The skin microbiome consists of myriad microorganisms that live naturally on the skin and in the uppermost layers of the skin. A healthy skin microbiome includes not only bacteria but also fungi and viruses. These microorganisms have specialised in living on our skin. They feed on dead skin cells, sebum, sweat and the skin's natural oils. They also support the skin's various functions and processes. For example, they contribute to the skin's acidic pH, help maintain its natural barrier functions and defend against pathogens. Microorganisms exist in symbiosis with the skin, meaning that their coexistence is useful and necessary for them both. In short, healthy skin has a healthy microbiome – and vice versa.

Composition of the skin microbiome

The microbiome is not structured in the same way in all skin areas. The composition of the microorganisms depends on

whether particular areas of skin are more dry or oily. It also differs from person to person. A similar differentiation can be found in ecosystems, in which the composition of living organisms depends on environmental conditions. For example, both desert and rainforest have stable ecosystems – but the plants and animals that inhabit them are different.

> “If the bacteria on our skin are in equilibrium, the skin can optimally fulfil its protective functions.”

Why the microbiome should be in balance

Having a large diversity of species is important for the stability and balance of an ecosystem. The higher the level of biodiversity, the better the ecosystem can withstand environmental changes and remain stable, balanced – and therefore healthy – as a whole. This also applies to the microbiome of the skin. The higher the bacterial diversity, the better the interaction of the microorganisms with the skin can prevent excessive growth of a single species or pathogen. This helps the skin to maintain a healthy equilibrium. Research into the interaction between microorganisms and the skin and how this can be positively influenced is still in its infancy. More research is needed to better understand the effects of personal care and skin care products. However, any skin care products you do use should be microbiome friendly, especially for a newborn’s delicate skin which is still developing its microbiome and protective acid mantle. **TPM**

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Date Created
1st June 2023