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SUNSCREEN UNDER THE SPOTLIGHT: EFFICACY, SAFETY CONCERNS, AND LIFE-SAVING BENEFITS

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Relevance. Skin cancer is the world's most common cancer, to the WHO, 1 in 3 cancers diagnosed worldwide is a skin cancer, and melanoma causes about 60,000 deaths each year globally. In Belarus skin cancer is among the top five most common cancers. However, many people still don't use sunscreen regularly.

Aim: to summarize current knowledge on sunscreen ingredients (chemical, mineral, and hybrid), their benefits against UV damage and skin cancer associated side effects, safety, and to identify gaps requiring further research.

Materials and methods. A search for scientific articles was conducted in two online databases: PubMed and Embase. Studies examining the effectiveness, safety, and real-world usage patterns of various sunscreens were reviewed. The analysis focused on the most common active ingredients, SPF ratings, and their cutaneous and systemic effects. Additionally, a survey was carried out, and the principal findings are summarized in the present review.

Results and their discussion. 122 people participated in the survey, of whom 77.9% were women and 22.1% were men. Among the surveyed students, 54.9% use sunscreen (SPF), while 45.1% do not use it. The main reasons for not using SPF include: 45.6% cite expense or rapid product depletion, 33.3% report an unpleasant texture (greasy, heavy), 12.3% believe that sun exposure does not harm their skin, and 7.0% fear that SPF itself harms the skin. Regarding the frequency of SPF use on sunny days (May–September): 27.9% always apply it when going outside, 38.5% use it only when spending a long time in the sun, 26.2% rarely use it, only when the skin begins to burn, and 7.4% do not use SPF at all. When considering SPF use in winter or cloudy weather, 41.8% do not use it, 39.3% believe it should only be used when the sun is active, and 18.9% do use it. As for reapplying SPF every 2 hours: 43.4% do not use SPF at all, 20.5% reapply only when the sun is active, 13.9% believe that once a day is sufficient regardless of sun exposure or swimming, and 18.9% reapply only after swimming.

Conclusions. Despite the widespread availability of information about photoaging and skin cancer risks, most respondents either do not use SPF or use it incorrectly: the key objectives are to reduce the price barrier, to create more comfortable textures, and to conduct educational campaigns about the need for year-round protection and regular reapplication.