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Minerva Medica 2024 May 14

DOI: 10.23736/S0026-4806.24.09262-0

## The “Burden of Skin Diseases” Project: a population-based study on 44,689 participants from 27 European countries

The “Burden of Skin Diseases” EADV study<sup>1</sup> was conducted on a representative sample of the general population of 27 European countries (N.=44,689). In that study, it was reported that 43.3% of participants had suffered from at least one dermatological condition or disease during the previous 12 months. The projection in the total population resulted in 185,103,774 individuals affected by at least one dermatological disease. The same study highlighted and confirmed the heavy burden of skin diseases on quality of life,<sup>2</sup> as well as on work life. Moreover, feelings of stigmatization due to visible skin diseases, such as hidradenitis suppurativa (HS), acne, and vitiligo were present in about 40% of participants, and anxiety and depression were reported by 22.6% of patients overall up to 63.4% of patients with HS. Due to these aspects, combined to the frequent presence of comorbidities (*e.g.*, metabolic syndrome or cardiovascular diseases) in chronic conditions, such as psoriasis and HS, dermatological conditions represent a significant public health issue. Nevertheless, in the above-mentioned survey, only one third of participants had consulted a dermatologist in the previous two years.<sup>3</sup> The main reasons for consultation were skin cancer screening including mole check, and chronic skin conditions, while patients with skin infections, and acute skin problems in general, frequently referred for consultation to general practitioners (GPs), as observed in previous studies, too.<sup>4</sup> It is noteworthy that a doctor, both a specialist or a GP, was not consulted even when a skin disease was present. For example, about 70% of people with atopic dermatitis, fungal infections, psoriasis, rosacea, and sexually transmitted diseases consulted a doctor, while about two third consulted for acne, and only about one in two did so for alopecia. Reasons for not consulting were various: participants were not particularly worried, or they thought they could handle the condition on their own or with relatives, or they already knew what to do since they had already consulted a healthcare professional for the same problem. However,

avoidance of medical care does not only depend on the belief that seeking medical care is unnecessary, but also on the presence of obstacles limiting access to it, as well as organizational aspects, relationship with the physician, or expected medical outcomes. In Europe, there is an imbalance between supply and demand of dermatological care. There is a shortage of dermatologists, and the demand is growing because of the increasing prevalence of several skin diseases, and in particular of skin cancers. In the UK it has been estimated that skin cancer accounts for approximately 50% of workload of dermatology departments.<sup>5</sup> Moreover, there are disparities between countries. In 2015 the number of dermatologists per 100,000 inhabitants varied between 12.8 in Greece to 1.5 in Ireland,<sup>6</sup> in any case insufficient for the population’s needs. Dermatology is a growing specialty. With the advent of emerging cutting-edge therapies, the dermatologist has acquired new treatment options in addition to topical and conventional systemic agents. Biologics represented the first step towards a new era for dermatology, changing the management of moderate-to-severe psoriasis and psoriatic arthritis two decades ago and, more recently, of atopic dermatitis and chronic urticaria. Moreover, new technologies are nowadays integral part of this specialty, such as tele dermatology, digital technologies to help dermatologists diagnose and treat skin diseases, and 3D printers for synthetic skin.

By disseminating the results of the “Burden of Skin Diseases” epidemiological study<sup>1</sup> we aim to raise awareness about the importance of skin diseases, and to underline the need to ensure timely and easy access to specialized dermatological care in Europe. In a world in which skin cancers are more and more widespread, the dermatologist has a pivotal role in its diagnosis, medical treatment, surgical excision when necessary, and accurate follow-up.

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## Conflicts of interest

The authors certify that there is no conflict of interest with any financial organization regarding the material discussed in the manuscript.

## Funding

This research was funded by a grant from the European Academy of Dermatology and Venereology (EADV).

## Authors' contributions

All authors read and approved the final version of the manuscript.

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## History

Article first published online: May 14, 2024. - Manuscript accepted: February 21, 2024. - Manuscript received: February 15, 2024.

*(Cite this article as: Paul C, Stratigos AJ, Nijsten T, Gisondi P, Salavastru C, Röecken M, et al.; EADV “Burden of Skin Diseases” Project Team. The “Burden of Skin Diseases” Project: a population-based study on 44,689 participants from 27 European countries. Minerva Med 2024 May 14. DOI: 10.23736/S0026-4806.24.09262-0)*