

Dermoscopy in Skin of Color: The Journey So Far

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Diagnosis in dermatology is a fascinating but also challenging process as it mostly relies on physician’s ability to identify morphological details of elementary lesions [1, 2]. In the past, patients’ evaluation was mainly based on naked-eye clinical analysis, yet over the last few decades the additional use of the dermatoscope has been showed to increase diagnostic accuracy, thereby deserving the epithet “dermatologist’s stethoscope” [3]. Although initially used for supporting the diagnosis of skin tumors, dermoscopic examination has been extended to non-neoplastic conditions, especially inflammatory and infectious dermatoses as well as hair diseases [4]. Of note, albeit its use is wider in light phototypes (I-III), dermoscopy has gained popularity also in dark-skinned patients, in which patterns may significantly differ because of the darker background and specific reactions typical of skin of color (e.g. lability of pigment and tendency to follicular or sclerotic reactions) [5]. However, literature evidence on dark phototypes is still limited (<3% of all published papers on dermoscopy) and sparse [6-9].

This special issue of *Dermatology Practical & Conceptual (DPC)* provides the readers with an up-to-date literature

overview about the use of dermoscopy in dark skin. Most of included data comes from four systematic reviews (one each for inflammatory, infectious, neoplastic and hair diseases) by the “Imaging in Skin of Color” Task Force of the *International Dermoscopy Society (IDS)* [6-9], that has recently been created. Inflammatory and infectious dermatoses turned out to have the highest number of published articles (85 and 66, respectively), encompassing a total of 78 and 41 different conditions, likely as the result of the wider number of entities in these fields and their high prevalence in dark-skinned populations [6,7]. Interestingly, trichoscopy showed the highest ratio between published studies and number of diseases (60 and 19, respectively) with consequent more data on reproducibility of the findings [8], unlike skin tumors that were investigated by a limited number of studies (20 for a total of 46 neoplasms) possibly due to their lower prevalence in skin of color [9]. Figure 1 depicts clinical subcategories of described dermatoses for each field (inflammatory, infectious, hair and neoplastic disorders), with the following conditions being the most represented ones: (I) papulosquamous and pigmentary dermatoses; (II) parasitoses (including bites and

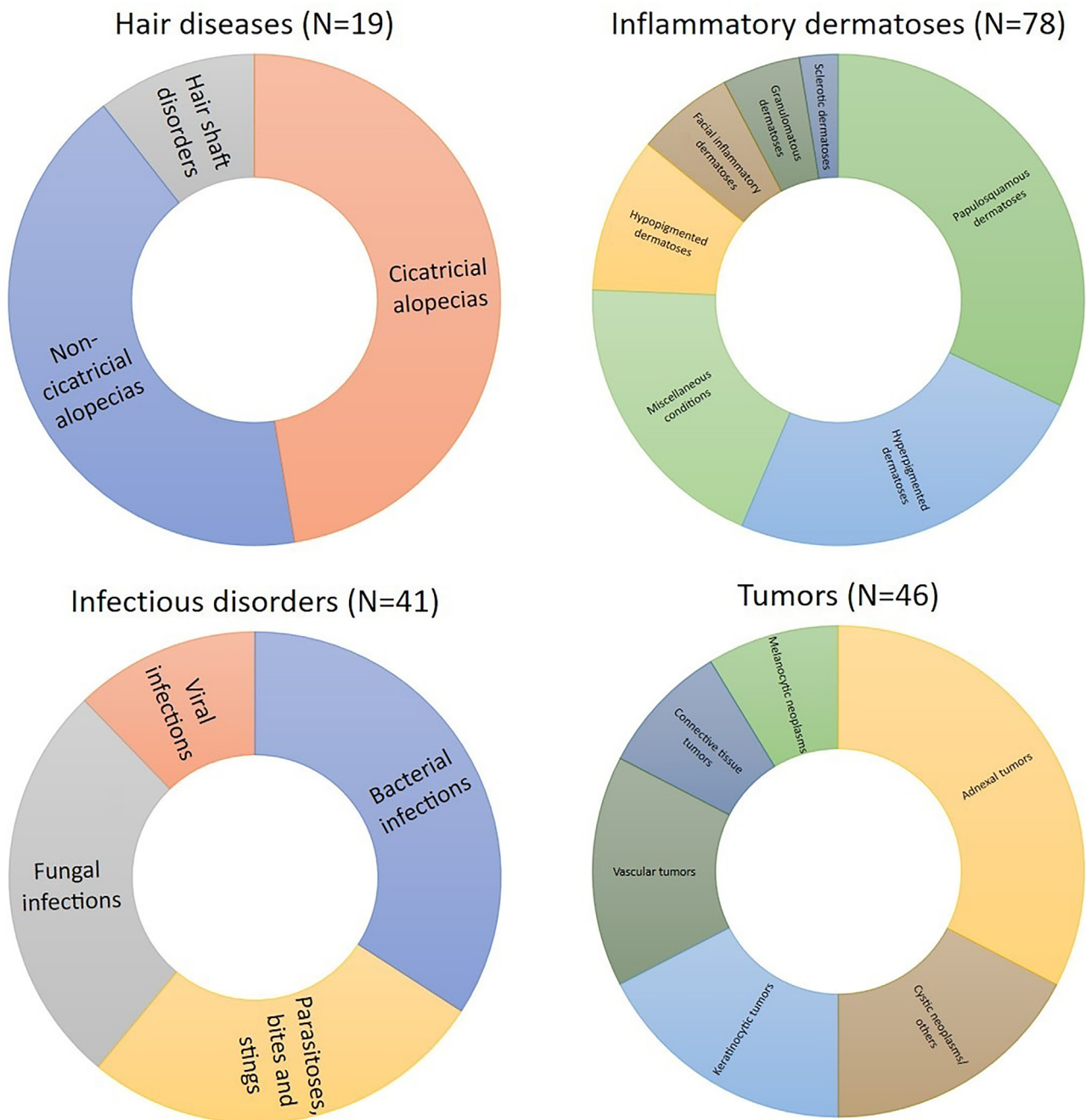


Figure 1. Clinical subcategories of described dermatoses for each dermoscopic field (inflammatory, infectious, hair and neoplastic disorders); the most represented ones include: (I) papulosquamous and pigmentary dermatoses; (II) parasitoses (including bites and stings), bacterial and fungal diseases; (III) adnexal, keratinocytic and vascular tumors; and (IV) cicatricial and non-cicatricial alopecias.

stings), bacterial and fungal diseases; (III) adnexal, keratinocytic and vascular tumors; and (IV) cicatricial and non-cicatricial alopecias [6-9].

Moving to the temporal distribution of published articles (Figure 2), while a more stable publication ratio per year was observed over the time for both hair diseases and tumors, the number of articles on inflammatory and infectious dermatoses showed a remarkable leap over the last few years, with most papers being published during the last six years [6-9]. Regarding the number of newly described diseases (Figure 3), a significant increase was found in recent times,

with peaks in 2017 and 2021 for tumors, in 2019 for infectious dermatoses, and in 2020 for inflammatory disorders [6-9]. This is due to the increase of the absolute number of articles during such years but also to the publication of more comprehensive studies including a wider number of entities, such as the multicentric controlled study on dermoscopy in general dermatology promoted by the *IDS* in 2020 [5].

Notably, most of the available studies on dermoscopy of dark phototypes showed a low level of evidence (V based on *The Oxford 2011 Levels of Evidence*), with a prevalence of case-series and single case-reports and only a limited

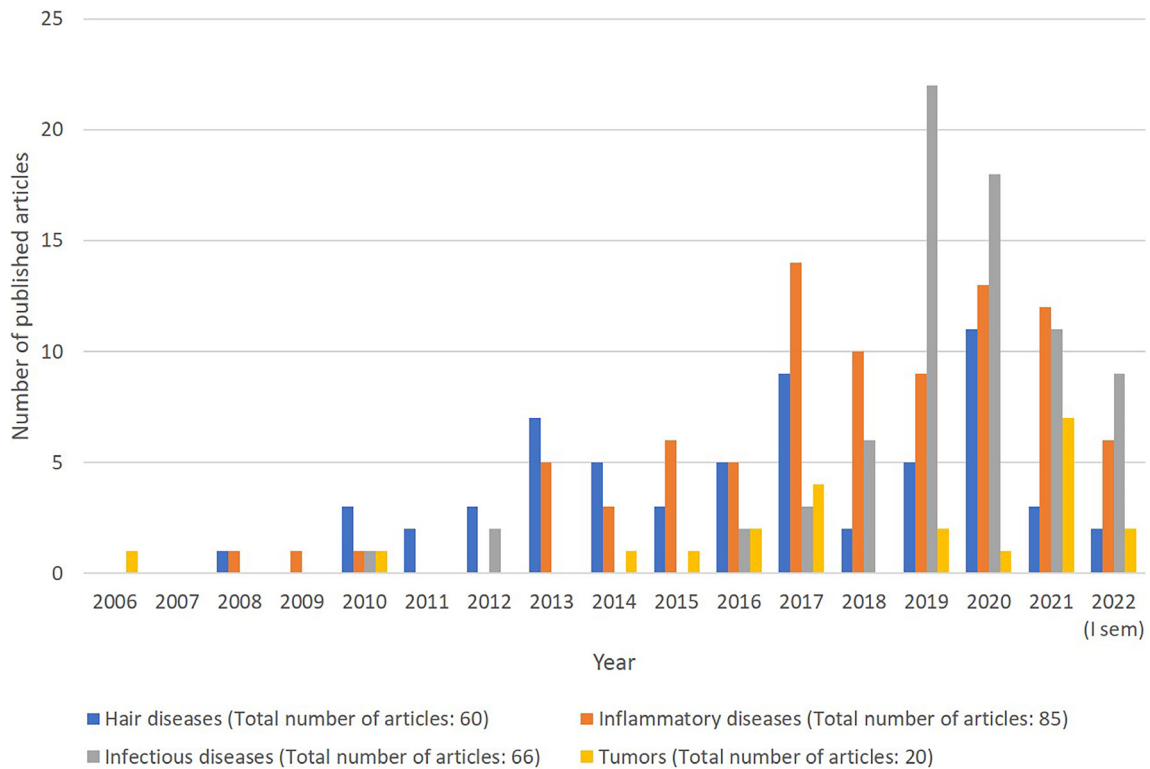


Figure 2. Temporal distribution of published articles on dermoscopy of dark-skinned patients; while a more stable publication ratio per year was observed over the time for both hair diseases and tumors, the number of articles on inflammatory and infectious dermatoses showed a remarkable leap over the last few years, with most papers being published during the last six years.

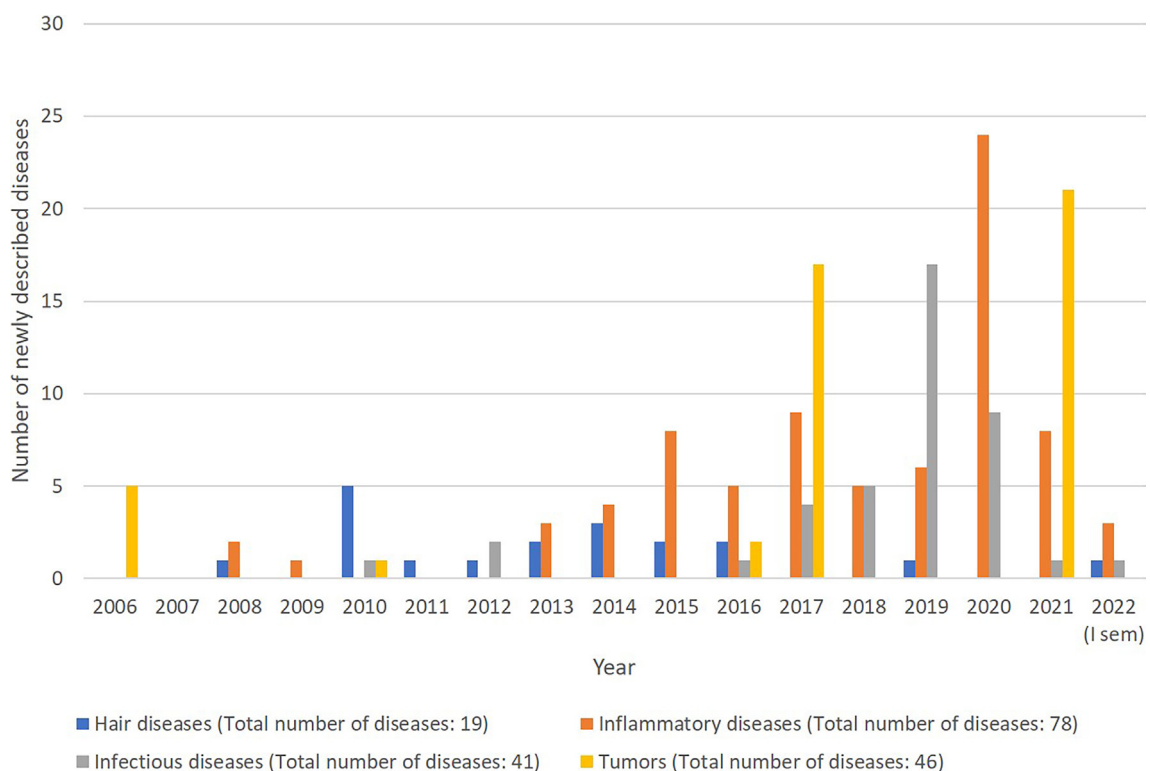


Figure 3. Temporal distribution of the number of dermatoses whose dermoscopic features were described for the first time; a significant increase was found in recent times, with peaks in 2017 and 2021 for tumors, in 2019 for infectious dermatoses, and in 2020 for inflammatory disorders.

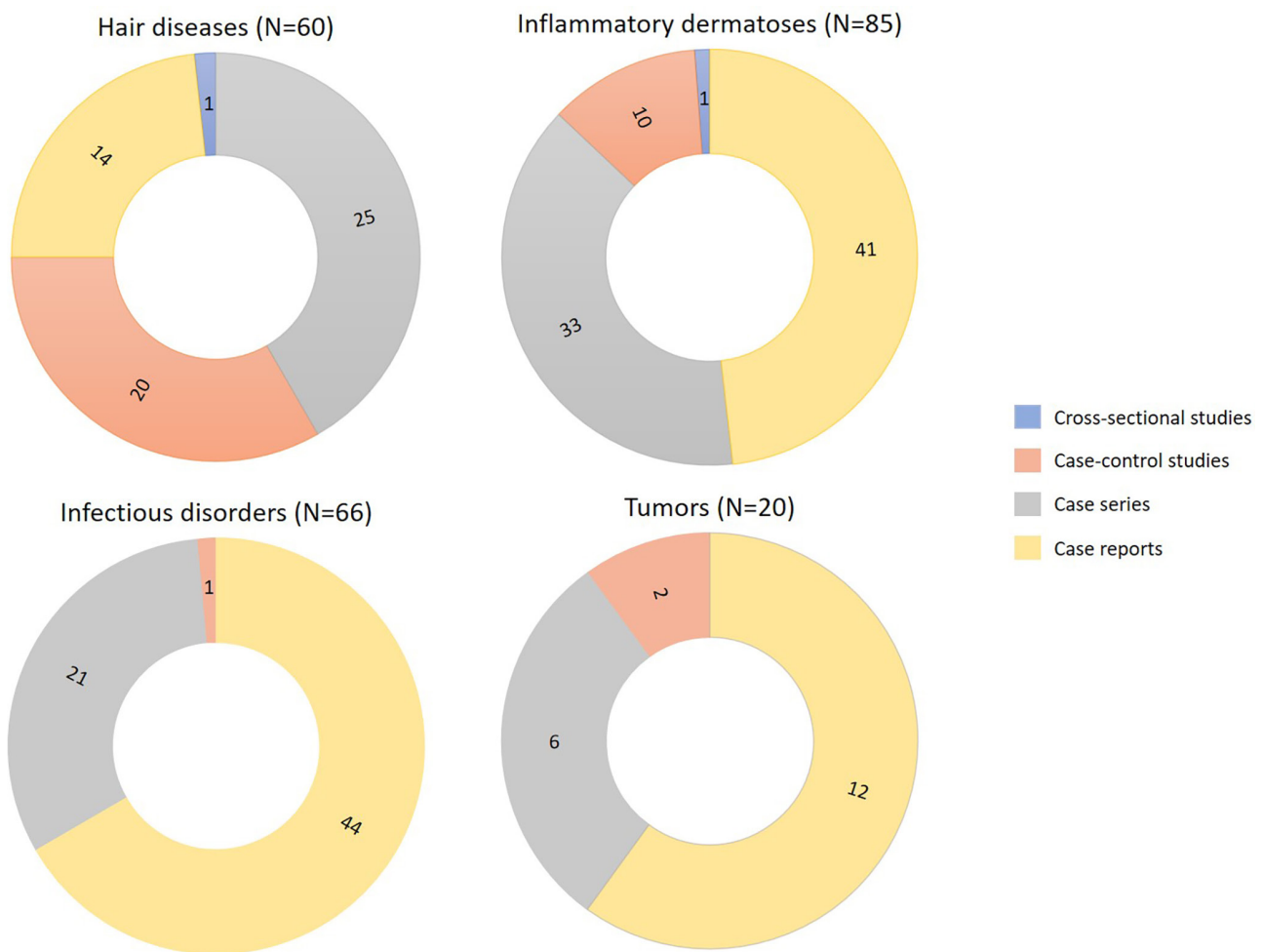


Figure 4. Number of published articles according to the study type (cohort, case-control, case-series, and case-reports); inflammatory and hair diseases display the greatest number of studies with a higher level of evidence (case-control and cross-sectional analyses), while articles on infectious and neoplastic dermatoses are mainly case series and case reports

number of studies displaying a higher level of evidence, including case-control and cross-sectional analyses (IV and III level of evidence, respectively) [6-9]. Interestingly, when comparing the four included fields (Figure 4), inflammatory and hair diseases turned out to have the greatest number of studies with a higher level of evidence (11 and 21 studies, respectively, taking into account both case-control and cross-sectional analyses), while articles on infectious and neoplastic dermatoses had a level of evidence of V (case series/reports) in 98% (65 out of 66) and 90% (18 out of 20) of cases, respectively [6-9].

Finally, a poor consistency of used terminology among the studies was also highlighted, especially for infectious/inflammatory dermatoses and tumors, with consequent limitations in terms of reproducibility of described findings [6, 7, 9]. To deal with such an issue, an alignment of dermoscopic terminology of reported features following a

homogeneous standardized nomenclature was provided in the reviews based on the *IDS* dermoscopic criteria for tumors and non-neoplastic dermatoses validated for skin of color [10,11]

In conclusion, there is a growing interest towards the use of dermoscopy in skin of color as testified by the recent increase of the number of studies published in the literature on this topic. Such a supportive tool may have a relevant role in the context of the diagnostic process of dermatological diseases, that is even more complex in dark phototypes due to due to the lack of some important clinical clues, such as erythema, lesion shade or surface changes (e.g., pigmentation and telangiectasias) [2]. However, analyses designed according to a systematic approach are needed to better validate the accuracy of this technique in skin of color and the present issue of *DPC* is intended to be the starting point to set new studies aiming at filling the highlighted gaps.

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