Eur J Dermatol 2020; 30(5): 524-31

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Article accepted on 20/05/2020

Inequalities in the patterns of dermoscopy use and training across Europe: conclusions of the Eurodermoscopy pan-European survey

Background: Dermoscopy is a widely used technique, recommended in clinical practice guidelines worldwide for the early diagnosis of skin cancers. Intra-European disparities are reported for early detection and prognosis of skin cancers, however, no information exists about regional variation in patterns of dermoscopy use across Europe. *Objective:* To evaluate the regional differences in patterns of dermoscopy use and training among European dermatologists. *Materials & Methods:* An online survey of European-registered dermatologists regarding dermoscopy training, practice and attitudes was established. Answers from Eastern (EE) versus Western European (WE) countries were compared and their correlation with their respective countries' gross domestic product/capita (GDPc) and total and government health expenditure/capita (THEc and GHEc) was analysed. *Results:* We received 4,049 responses from 14 WE countries and 3,431 from 18 EE countries. A higher proportion of WE respondents reported dermoscopy use (98% vs. 77%, $p<0.001$) and training during residency (43% vs. 32%) or anytime (96.5% vs. 87.6%) ($p<0.001$) compared to EE respondents. The main obstacles in dermoscopy use were poor access to dermoscopy equipment in EE and a lack of confidence in one's skills in WE. GDPc, THEc and GHEc correlated with rate of dermoscopy use and dermoscopy training during residency (Spearman rho: 0.5-0.7, $p<0.05$), and inversely with availability of dermoscopy equipment. *Conclusion:* The rates and patterns of dermoscopy use vary significantly between Western and Eastern Europe, on a background of economic inequality. Regionally adapted interventions to increase access to dermoscopy equipment and training might enhance the use of this technique towards improving the early detection of skin cancers.

Key words: dermoscopy, training, skin cancer, Western Europe, Eastern Europe, disparities

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doi:10.1684/ejd.2020.3872

To cite this article: Forsea AM, Tschandl P, Zalaudek I, Del Marmol V, Soyer HP, Eurodermoscopy Working Group, Argenziano G, Geller AC. Inequalities in the patterns of dermoscopy use and training across Europe: conclusions of the Eurodermoscopy pan-European survey. *Eur J Dermatol* 2020; 30(5): 524-31 doi:10.1684/ejd.2020.3872

Dermoscopy is a non-invasive skin imaging technique widely used in dermatological practice, with a solid evidence-based benefit in improving the early diagnosis of skin cancers [1-5]. It is currently recommended as an integrant part of diagnosis in most European and international guidelines for skin cancer management [6-9]. Across Europe, important disparities in the burden and outcomes of skin cancers [10-13], as well as in the early detection of these tumours [14-17], have been documented, with late detection and poor prognosis following a north-south, west-east gradient. Therefore, conceivably, different patterns of use of dermoscopy between countries may be one of the many components accounting for these disparities, and one that could be amended through well-guided interventions. Based on this hypothesis, we have recently performed the first pan-European study on patterns of dermoscopy use by dermatologists. We previously reported on the first pooled results, highlighting the main overall facilitators and obstacles for implementing this technique in everyday practice at continental level [18]. We also found that many dermatologists considered that dermoscopy improved the sensitivity and specificity of melanoma diagnosis [19]. In the present work, we deepened the analysis to investigate potential differences in the patterns, training, context, and attitudes towards dermoscopy use between European regions and countries. As a one-size-fits-all solution cannot solve the complex healthcare problems of a heterogeneous continent, we anticipate that this study may guide future interventions adapted to regional context, to increase the early detection of skin cancers while reducing the costs of invasive diagnosis.

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Materials and methods

The Eurodermoscopy pan-European survey was conducted under the auspices of the International Dermoscopy Society (IDS), and its methodology was described in detail previously [18]. In brief, it consisted of an online survey distributed between June to December 2014 to all licensed dermatologists registered in 32 European countries, using a 20-item questionnaire that covered demographic, practice-related and training characteristics, as well as patterns of dermoscopy use and dermatologists' attitudes and opinions about dermoscopy. Translation in the national languages and dissemination of the survey in each country was coordinated by a National Coordinating Team. The IDS web-based tool for online surveys was used to collect online responses into an access-restricted central database, grouped by country access code. Duplicate and incomplete responses were excluded from analysis. The number of dermatology specialists registered in each country as per December 2014, was provided by each National Coordinator, based on the official statistics of the relevant national authority. The response rate was calculated as the number of responses received divided by the total number of dermatologists registered in that country. High use of dermoscopy was defined, as described previously [18], as use of dermoscopy in at least 50% of all cases of pigmented and non-pigmented tumours and inflammatory lesions.

Country grouping

The participating countries, as defined by the United Nations Organization [20], were grouped as follows:

– *Eastern Europe (EE):* Belarus, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, FYRO Macedonia, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Georgia, Israel, Turkey
– *Western Europe (WE):* Austria, Belgium, France, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, The United Kingdom.

The grouping of the countries in the two regions was based on their geographical position and classification of European countries by the UN Statistics Division [20] and World

Health Organization (WHO) [21], as well as taking into account the reported similarities in skin cancer epidemiology [10, 11, 22], structure of national health systems, socioeconomic background, and post-war political and historical setting [12, 23]. The two regions had comparable survey response rates.

Economic context

Data on participating countries' total population, Gross Domestic Product/capita (GDPc), Government Health Expenditure/capita (GHEc) and Total Health Expenditure/capita (THEc) expressed in US dollars were collected for the year of the survey in 2014 from the World Health Organization Global Health Expenditure Database [24].

Statistical analysis

For statistical analysis, R software [25] was used. The chi-squared test was used to compare proportions of two groups and the chi-squared test for trends in proportions was used to compare proportions of ordered groups. Continuous data are given as means and standard deviations unless stated otherwise, and parametric tests for comparing groups were only used if corresponding assumptions were met. Correlations between two continuous variables were tested with the Spearman's rank correlation coefficient (unless stated otherwise) as most correlations showed a monotonous but not linear trend. A two-sided p value of <0.05 was regarded as statistically significant, and for univariate analyses values, was adjusted according to the method of Holm [26].

Results

We received 4,049 responses from 14 countries in the WE region and 3,431 responses from 18 countries from the EE region. The response rates in the two regions were comparable, namely 20% of all dermatologists in WE and 23% of all dermatologists in EE.

Demographics and rates of dermoscopy use

There were several statistically significant differences (*table 1*) between the two European sub-regions. WE respondents included a lower proportion of women, had older median age, and reported more patients in general and more cancer patients seen monthly. A higher proportion of WE respondents reported dermoscopy training during residency (43.51% vs 32%, $p<0.001$) or any form of dermoscopy training (96.5% vs 86.18%). Almost half of WE respondents were working in individual private practices and 22% in public health facilities; the opposite was true for EE respondents. In all, 3,950 dermatologists (98.33%) in WE and 2,652 dermatologists (77.84%) in EE reported using dermoscopy (*table 1*).

Patterns of dermoscopy use

Among the dermatologists reporting dermoscopy use, WE respondents reported longer dermoscopy practice and more intensive use of this technique across all types of skin lesions than EE physicians (*table 2*).

Fifty-seven percent of WE and 41% of EE dermatologists reported using polarized dermoscopy devices. Video dermoscopy systems were used by a third (30%) of dermatologists in WE and 16% of dermatologists in EE. The algorithms for melanoma diagnosis most frequently used were pattern analysis in WE (35%) and the ABCD rule in EE (43% of respondents). Thirty-one percent of dermoscopy users in WE and 23% in EE did not regularly use any algorithm.

Dermoscopy increased self-reported melanoma recognition for 90% of respondents in EE and 84% in WE. Fewer respondents in EE (60%) than in WE (78%) reported that dermoscopy helped them reduce the number of unnecessary biopsies of benign lesions.

There were high proportions of positive opinions about the benefits of dermoscopy with comparable rates between WE

Table 1. Demographic and practice-related characteristics of dermatologists in Europe.

	Western Europe (%, n)	**Eastern Europe (%, n)**	***p* value**
No. of respondents	4049	3431	
Female participants	59.97%, *n*=2413	79.52%, *n*=2711	<**0.001**
Age (mean)	49.2 (SD: 10.83)	43.59 (SD: 10.78)	<**0.001**
Place of work	-	-	
-Individual private practice	47.44%, *n*=1921	22.12%, *n*=759	<**0.001**
-Private ambulatory/hospital	12.67%, *n*=513	30.22%, *n*=1037	<**0.001**
-Public ambulatory/hospital	22.25%, *n*=901	45.85%, *n*=1573	<**0.001**
-University hospital	21.56%, *n*=873	17.40%, *n*=597	<**0.001**
-Involved in teaching activity for dermatology residents	12.42%, *n*=503	12.12%, *n*=416	1.000
No. of years as dermatology specialist (mean)	17.35 (SD: 10.85)	14.51 (SD: 10.43)	<**0.001**
No. of patients seen/month (mean)	449.79 (SD: 369.03)	376.46 (SD: 426.17)	<**0.001**
No. of skin cancer patients seen/month (mean)	83.82 (SD: 124.79)	16.95 (SD: 48.17)	<**0.001**
Dermoscopy training received during residency	43.51%, *n*=1720	32.37%, *n*=1092	<**0.001**
Dermoscopy training received outside residency	96.49% *n*=3907	86.18%, *n*=2957	<**0.001**
No. of respondents who use dermoscopy	98.33%, *n*=3950	77.84%, *n*=2652	<**0.001**

Table 2. Patterns of dermoscopy use in Europe (dermoscopy users only).

	Western Europe (%, n)	Eastern Europe (%, n)	*p* value
Number of responses	3950	2652	
Duration of dermoscopy use			**<0.001**
-<2 years	3.67%, *n*=139	22.30%, *n*=557	
-2-5 years	13.53%, *n*=513	29.86%, *n*=746	
->5 years	82.81%, *n*=3140	47.86%, *n*=1195	
Types of dermoscopes used			
–Non-polarized immersion contact	54.15%, *n*=2139	47.32%, *n*=1255	**<0.001**
–Polarized light dermoscope	56.86%, *n*=2246	41.33%, *n*=1096	**<0.001**
–Dermoscope with digital camera	20.20%, *n*=798	23.87%, *n*=633	0.005
–Digital video-dermoscopy system	30.38%, *n*=1200	16.33%, *n*=433	**<0.001**
Average frequency of dermoscopy use			**<0.001**
-<1x / month	0.29%, *n*=11	1.96%, *n*=49	
-1-4 / month	1.00%, *n*=38	9.26%, *n*=231	
->1x / week	4.71%, *n*=179	20.20%, *n*=504	
-Daily	94.00%, *n*=3572	68.58%, *n*=1711	
Responders reporting high use of dermoscopy	66.57%, *n*=2485	56.39%, *n*=1345	**<0.001**
Regularly used dermoscopic algorithm			
-ABCD rule	19.80%, *n*=782	42.68%, *n*=1132	**<0.001**
-CASH	0.35%, *n*=14	0.98%, *n*=26	0.025
-Menzies algorithm	3.14%, *n*=124	1.47%, *n*=39	**<0.001**
-7-Point Checklist	6.81%, *n*=269	8.71%, *n*=231	0.044
-Pattern analysis	35.06%, *n*=1385	19.31%, *n*=512	**<0.001**
-None	31.39%, *n*=1240	22.59%, *n*=599	**<0.001**
Increased melanoma recognition due to dermoscopy	83.66%, *n*=1580	90.27%, *n*=2218	**<0.001**
Change in excisions of benign lesions due to dermoscopy			**<0.001**
-Increased	5.26%, *n*=198	10.45%, *n*=257	
-No change	16.80%, *n*=633	29.77%, *n*=732	
-Decreased	77.94%, *n*=2936	59.78%, *n*=1470	

and EE (data not shown). Dermatologists in WE reported slightly higher levels of self-confidence in their dermoscopy skills for the diagnosis of tumours compared to EE physicians.

Profile of non-users

To pinpoint the main obstacles in dermoscopy use, we compared the characteristics of dermatologists who did not use dermoscopy between the two sub-regions. (*table 3*). The respondents who did not use dermoscopy in WE were older, had been practicing dermatology for a longer time, and included more males relative to non-users from EE. The majority (51%) of WE non-users worked in individual private practices, and only 10% in public hospitals. The opposite was true for non-users in EE (57% of non-users working in public hospitals and 14% in private practices). Twenty-seven percent of non-users in WE did not receive any form of dermoscopy training, compared to half of non-users in EE.

The reasons for not practicing dermoscopy differed significantly between the two regions: WE respondents indicated most frequently their lack of self-confidence in their dermoscopic skills (43%), followed by a lack of training in dermoscopy (33%). Fifteen percent of respondents observed that dermoscopy is not useful for their practice and 10% considered it too time-consuming. In EE countries, the main reasons for not using dermoscopy were a lack of dermoscopes available in the office (61%), followed by a lack of training (43%) and lack of confidence in own skills (21%). Only about 1% of respondents did not use dermoscopy because it was deemed not useful or too time-consuming.

Analysis of patterns of dermoscopy use in relation to country response rates

The country response rate in our survey varied between 6.62% (UK) and 69.5% (Estonia). The response rate correlated inversely with the number of registered dermatologists (Spearman's rho = -0.63, $p<0.001$). Notably, the response rate by country did not influence the reported rate of dermoscopy use (Φ = -0.23, p= 1.00).

Nonetheless, given the large range of response rates, we conducted a supplementary analysis of the reported dermoscopy practice by tiers of response rates. Countries were grouped according to their response rate into three categories: countries with response rates under 20%, response rates between 21% and 40%, and response rates of at least 41%. We compared WE vs. EE in each category for selected key questions (*table 4*).

In general, the differences between WE and EE countries in each category corresponded to the overall analysis of the two regions. Few exceptions were noted: in the middle category (response rate: 21-40%), dermoscopy training during residency was reported by 46% respondents in EE and 33% WE dermatologists ($p<0.001$), while in the top response rate category (≥41%), high use of dermoscopy

Table 3. Profile of responders not using dermoscopy.

	Western Europe (%, n)	Eastern Europe (%, n)	*p* value
Number of responses	67	755	
Female participants	65.15%, *n*=43	80%, *n*=600	0.098
Age (mean)	54.98 (SD: 9.78)	42.71 (SD: 11.62)	<**0.001**
Place of work			
-Individual. private practice	50.75%, *n*=34	14.17%, *n*=107	<**0.001**
-Private ambulatory/hospital	10.45%, *n*=7	26.23%, *n*=198	**0.093**
-Public ambulatory/hospital	10.45%, *n*=7	57.35%, *n*=433	<**0.001**
-University/hospital	20.90%, *n*=14	8.48%, *n*=64	**0.028**
-Involved in teaching activity for dermatology residents	20.90%, *n*=14	7.55%, *n*=57	**0.008**
No. of years as dermatology specialist (mean)	23.9 (SD: 10.73)	14.19 (SD: 10.68)	<**0.001**
No. of patients/month (mean)	266.13 (SD: 211.56)	276.75 (SD: 300.48)	1.000
No. of skin cancer patients/month (mean)	41.05 (SD: 108.78)	5.89 (SD: 22.6)	0.150
Dermoscopy training during residency	4.84%, *n*=3	12.62%, *n*=94	0.767
No other form of dermoscopy training outside residency	26.87%, *n*=18	49.93%, *n*=377	**0.008**
Reasons for not using dermoscopy			
-I do not consider it useful for my practice	14.93%, *n*=10	1.06%, *n*=8	<**0.001**
-The equipment is too expensive	8.96%, *n*=6	17.75%, *n*=134	0.767
-A dermoscope is not available in my office	17.91%, *n*=12	61.19%, *n*=462	<**0.001**
-I have not been trained in dermoscopy	32.84%, *n*=22	43.31%, *n*=327	0.767
-I am not confident enough in my skills for dermoscopy diagnosis	43.28%, *n*=29	20.53%, *n*=155	<**0.001**
-It is too time-consuming	10.45%, *n*=7	1.19%, *n*=9	<**0.001**
-It is not well reimbursed	4.48%, *n*=3	4.11%, *n*=31	1.000
-Other	14.93%, *n*=10	7.02%, *n*=53	0.328

was reported more frequently in EE than in WE (62% vs. 46%, $p<0.001$).

The influence of economic context on dermoscopy use in Europe

We explored the manner in which the main healthcare-related national economic indicators (THEc, GHEc GDPc) relate to the reported patterns of dermoscopy use. Our results for THEc and GHEc overlapped. Similar correlation coefficients were obtained for GDPc and GHEc, showing a moderate positive correlation (Spearman rho between 0.5 and 0.7; $p<0.05$) with the: rate of dermoscopy use, percentage of dermatologists trained for dermoscopy during residency, rate of use of non-polarized contact dermoscope, rate of use of pattern analysis for melanoma diagnosis, and percentage of dermatologists who did not use any algorithm reported in each country. In countries with lower GDPc or GHEc, a lack of a dermoscope in the office, a lack of training in dermoscopy, and the assessment that dermoscopy equipment was too expensive were the reasons most frequently raised for not using dermoscopy (Spearman rho between -0.5 to -0.7; $p<0.05$).

Discussion

The Eurodermoscopy study, based on the input from 7,500 dermatologists, is the largest of its kind so far and provides unprecedented insight into the patterns of use, obstacles, and facilitators of dermoscopy in the practice of European dermatologists. We used this wealth of data to analyse the differences between countries and regions in the practice of dermoscopy, on the premise that these differences might relate to the reported disparities in early detection and outcome of skin cancers between EE and WE countries [10, 12, 13, 15, 16], thus these data may serve to develop context-adapted interventions in order to alleviate these disparities across the continent.

The large variation in country response rates to our survey precluded a direct comparison between countries. Therefore, we performed the analysis at regional level and compared WE vs. EE regions, which had very close response rates, ensuring that one in every five registered dermatologists in each region provided input into our study. This regional comparison matches the main line of West-East divergence reported in terms of skin cancer outcomes and epidemiology [10, 11, 22], but also of cancer care outcomes, structure of national health systems and socioeconomic background [12, 23] across the continent. To obtain a further, more nuanced, image of the European landscape, we conducted the West-East comparison in smaller groups of countries, defined by comparable response rates. Our results were largely similar in the overall analysis (*tables 1-3*) and within the three subgroups of countries with similar response rates (*table 4*). This supports our findings relative to the variability of survey response rates, and reinforces the validity of our conclusions regarding the inter-regional differences in dermoscopy practice and training.

Noteworthy, the rate of dermoscopy use reported by each country did not correlate with country survey response rates. Thus, our study design appears to have precluded

Table 4. Comparison of key responses in European regions, stratified by country response rates.

	Response rate <20%[1]			Response rate 21-40%[2]			Response rate >=41%[3]		
	WE (WE)	EE (EE)	*p* value	WE	EE	*p* value	WE	EE	*p* value
Number of responses	1853	1370		1730	1328		466	733	
No. of years as dermatology specialist (mean)	16.43 (SD: 10.66)	13.78 (SD: 9.22)	<**0.001**	19.25 (SD: 10.63)	14.52 (SD: 11.29)	<**0.001**	13.96 (SD: 11.12)	15.87 (SD: 10.81)	0.067
No. of skin cancer patients seen/ month (mean)	107.37 (SD: 140.19)	5.25 (SD: 30.43)	<**0.001**	52.59 (SD: 77.99)	24.39 (SD: 54.94)	<**0.001**	105.36 (SD: 167.52)	24.37 (SD: 56.18)	<**0.001**
Dermoscopy training during residency	51.05%, *n*=921	15.43%, *n*=208	<**0.001**	33.18%, *n*=563	46.48%, *n*=608	<**0.001**	52.21%, *n*=236	38.44%, *n*=276	<**0.001**
% respondents using dermoscopy	98.53%, *n*=1809	63.48%, *n*=864	<**0.001**	97.91%, *n*=1683	91.27%, *n*=1202	<**0.001**	99.13%, *n*=458	80.38%, *n*=586	<**0.001**
% respondents reporting high use of dermoscopy	75.33%, *n*=1298	46.83%, *n*=347	<**0.001**	62.5%, *n*=990	60.16%, *n*=672	1.000	46.37%, *n*=198	61.81%, *n*=327	<**0.001**
Increased melanoma recognition due to dermoscopy	91.47%, *n*=898	89.09%, *n*=694	0.652	75.89%, *n*=547	90.27%, *n*=1020	<**0.001**	81.15%, *n*=166	92%, *n*=506	<**0.001**
Change in excisions of benign lesions due to dermoscopy			<**0.001**			<**0.001**			<**0.001**
Increased	5.36%, *n*=93	18.16%, *n*=142		5.35%, *n*=86	6.53%, *n*=74		4.44%, *n*=19	7.50%, *n*=41	
No change	13.32%, *n*=231	43.22%, *n*=338		19.49%, *n*=313	22.33%, *n*=253		20.79%, *n*=89	25.96%, *n*=142	
Decreased	81.31%, *n*=1410	38.62%, *n*=302		75.16%, *n*=1207	71.14%, *n*=806		74.77%, *n*=320	66.54%, *n*=364	

WE: Western Europe; EE: Eastern Europe[1] <20% response rate (WE: UK, Italy, Greece, Spain, Germany; EE: Russia, Belarus, Israel)[2] 21%-40% response rate (WE: Ireland, Austria, Belgium, France, Portugal, Norway, Switzerland; EE: Slovakia, Georgia, Czech, Turkey, Romania, Hungary, Slovenia, Lithuania)[3] >=41% response rate (WE: Sweden, The Netherlands; EE: Bulgaria, Macedonia, Croatia, Serbia, Bosnia, Latvia, Estonia)

a selection bias, which is a frequent concern for surveys on dermoscopy use, as most responders tend to be dermoscopy users.

Our survey reported a 20% lower rate of dermoscopy use in EE compared to WE, combined with a lower rate of dermoscopy training during or beyond residency and less reported access to dermoscopy and digital dermoscopy equipment. The lack of dermoscopy equipment appears to be the main obstacle in dermoscopy use for most dermatologists in EE (61%), while a lack of training appears to be the main issue in WE. These issues seem to be exacerbated in the public healthcare systems, where nearly a half of respondents in EE work, including the majority of dermatologists who do not use dermoscopy. This raises concerns regarding the feasibility of wide implementation of the current best practice guidelines, which recommend the use of dermoscopy and digital sequential dermoscopy for the diagnosis and follow-up of skin cancers [6-9].

While both WE and EE dermatologists agreed that dermoscopy improves melanoma recognition in their practice, their opinions diverge by an estimated 20% regarding the benefit of dermoscopy in decreasing the number of unnecessary biopsies (*table 3*). This difference may stem from inequalities in the level of expertise, in the access to adequate equipment, and in the diagnostic algorithms used. Thus, it has been shown that the rate of unnecessary biopsies is lowest for dermoscopy experts, in specialised pigment lesion clinics [2, 27, 28], and can be reduced significantly by short-term monitoring of the patient using sequential digital dermoscopy (SDD) [4, 29, 30]. However, access to digital or video dermoscopy devices for SDD was reportedly available to a minority (12%) of dermatologists in EE in our study. Over half of EE respondents reported less than five years of experience with this technology, while 83% of WE specialists had been using dermoscopy for over five years. This confirms that most EE countries adopted this technology later, but dermatologists, especially younger ones, are catching up. Regarding the diagnostic algorithm, we previously found [19] that the benefits of dermoscopy in decreasing unnecessary biopsies is reported more frequently by dermatologists using pattern analysis, but less by those using the ABCD rule. This seems to align with the present findings that more dermatologists in WE use pattern analysis, while the ABCDE algorithm appears to be preferred by EE dermatologists. These findings feed into the ongoing debate over the optimal algorithm [1, 31].

Finally, the use of dermoscopy is influenced by economic background, which affects all aspects of health care, including melanoma survival [12]. We found that the level of country THEc and GDP/capita correlate significantly with the rate of dermoscopy use as well as with important aspects of dermoscopy use and training. Since THEc varies between 350 and 7,700 ppp$ (purchasing-power-parity dollars) in Europe [23, 24], this challenge must be acknowledged, and innovatively addressed, taking advantage of the opportunities of digital technology and online knowledge-sharing.

A particular strength of our study are the thousands of answers received from dermatologists in EE, as this region is often under-represented in studies on skin cancer epidemiology or health care quality compared to Western countries [6, 10, 32, 33] and lacks data on dermoscopy practice [34-37]. The Eurodermoscopy project encouraged participation of EE countries through its inclusive, context-adapted survey recruitment methodology, thus achieving unique insight into dermatologists' practice in all regions of Europe.

The limitations of the study are related mainly to the variable response rate, which precluded the direct comparison between individual countries. A breakdown of results into more sub-regions (*e.g.* in North, Western, South and Central-Eastern Europe regions, as used by Globocan and in related studies [38]) would have reduced the statistical power of the findings and thus was not performed. The restriction of the survey to dermatologists and the reliance on self-reported data on the impact of dermoscopy on melanoma diagnosis are other limitations of the study design reported previously [18, 19]. However, the strength of 7,500 responses, balanced between the two parts of the continent, provides unique invaluable information.

Conclusion

Dermoscopy is widely used in Europe and helps improve the diagnosis of early skin tumours, yet its use is significantly lower in the eastern half of the continent. In this region, improving access to equipment, especially in public healthcare facilities, as well as quality training, especially during residency, appear to be major pathways to enhance dermoscopy use towards the ultimate goal of reducing the cross-country inequalities in the early detection of skin cancers. ■

Acknowledgements and disclosures. *Acknowledgements: special thanks to Gerald Gabler, IDS webmaster, who accomplished the essential tasks of creating the study webpage, setting up and maintaining the online survey for 32 participating countries, creating the central online study database and participating in the data cleaning. Thanks also to all the members of National Coordinating Teams for their efforts in translating the questionnaires, disseminating the survey, motivating colleague dermatologists to respond, and collecting offline answers. Their names are listed on the Eurodermoscopy website http://euro.dermoscopy-ids.org. Funding: none. The web-based platform for online surveys used by the study was made available unconditionally by the International Dermoscopy Society. HPS holds an NHMRC MRFF Next Generation Clinical Researchers Program Practitioner Fellowship (APP1137127). Conflicts of interest: none.*

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