

Utilization patterns and perceptions of artificial intelligence among portuguese dermatovenereologists

Perfil de utilização e percepções sobre a inteligência artificial na Dermatovenereologia portuguesa

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Abstract

Objectives: Artificial intelligence (AI) has rapidly expanded across medical specialties, including dermatology. However, little is known about the perceptions and use of AI among Portuguese dermatologists. This study aimed to evaluate awareness, attitudes, patterns of AI use, and demographic factors influencing its adoption. **Methods:** A web-based, anonymous questionnaire was distributed to Portuguese dermatologists between June and August 2025. Associations were assessed using Chi-square and Fisher exact tests. Analyses were stratified by age, gender, workplace setting, and professional title. Statistical analyses were performed using R (4.5.1) and RStudio (2025.09.02). **Results:** A total of 172 dermatologists completed the survey, representing approximately 38% of the estimated 450 practicing dermatologists in Portugal; 66.3% were female, and 41.3% were aged ≤ 40 years; 16.9% ($n = 29$) were residents, and 83.2% ($n = 143$) were board-certified specialists. Most participants (95.9%) were aware of AI, and 85.5% reported using AI tools, with 37.2% using them at least weekly. AI use was significantly associated with age, career stage, and workplace, but not with gender or region. Main applications included text writing (39.5%) and medical research (36.6%). Most participants believed AI could improve dermatology and administrative efficiency, while the main concern was diagnostic errors (72.1%). **Conclusion:** Portuguese dermatologists demonstrate high awareness and positive attitudes toward AI. However, training gaps and ethical concerns highlight the need for structured education and responsible implementation in dermatological practice.

Keywords: Artificial intelligence. Dermatology. Surveys and questionnaires. Clinical decision-making. Portugal.

Resumo

Objetivos: A inteligência artificial (IA) tem-se expandido rapidamente por várias especialidades médicas, incluindo a dermatologia. Contudo, pouco se sabe sobre as percepções e a utilização da IA entre os dermatologistas portugueses. Este estudo teve como objetivo avaliar o conhecimento, as atitudes, os padrões de utilização da IA e os fatores demográficos que influenciam o seu uso. **Métodos:** Foi distribuído um questionário eletrónico e anónimo aos dermatologistas portu-

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ses entre junho e agosto de 2025. As associações foram avaliadas através dos testes do Qui-quadrado e exato de Fisher. As análises foram estratificadas por idade, género, contexto de trabalho e título profissional. As análises estatísticas foram realizadas utilizando o R (4.5.1) e o RStudio (2025.09.02). **Resultados:** Um total de 172 dermatologistas completou o inquérito, representando aproximadamente 38% dos 450 dermatologistas ativos em Portugal; 66,3% eram do sexo feminino e 41,3% tinham idade ≤ 40 anos, 16,9% ($n = 29$) eram internos e 83,2% ($n = 143$) eram especialistas. A maioria dos participantes (95,9%) tinha conhecimento da IA e 85,5% referiram utilizar ferramentas de IA, sendo que 37,2% as utilizavam pelo menos semanalmente. A utilização da IA associou-se significativamente à idade, à fase da carreira e ao local de trabalho, mas não ao género nem à região. As principais aplicações incluíram a redação de texto (39,5%) e investigação médica (36,6%). A maioria dos participantes considerou que a IA poderia melhorar a dermatologia e a eficiência administrativa, sendo a principal preocupação os erros de diagnóstico (72,1%). **Conclusão:** Os dermatologistas portugueses demonstram um elevado conhecimento e atitudes positivas relativamente à IA. Contudo, as lacunas na formação e as preocupações éticas destacam a necessidade de uma educação estruturada e de uma implementação responsável na prática dermatológica.

Palavras-chave: Inteligência Artificial. Dermatologia. Inquéritos e Questionários. Tomada de Decisão Clínica. Portugal.

Introduction

Artificial intelligence (AI) refers to the capability of machines to perform tasks that typically require human intelligence. This encompasses a broad range of functions, including learning, reasoning, and self-correction. Today, AI is widely applied across multiple fields, including medicine and healthcare systems, and has recently emerged as a highly discussed topic within dermatology. Given that dermatology is a medical specialty in which numerous clinical images are routinely used, and where the visual assessment of observable features is central to practice, it appears particularly well suited for the integration of AI-based tools.¹⁻³ Preliminary studies have shown that the application of AI in dermatology may offer several advantages, including the automation of repetitive tasks, optimization of time-consuming processes, improved access to limited medical resources, enhanced interobserver reliability, and expansion of the diagnostic toolbox available to dermatologists.^{2,4} Despite these promising developments, there is currently no published research or summary review on the attitudes of Portuguese dermatologists toward AI.

The aim of this study was therefore to evaluate the awareness and perceptions of Portuguese dermatologists regarding AI, using a web-based questionnaire.

Methods

We designed a web-based questionnaire by reviewing the existing literature.³⁻⁶ The survey was created using Google Forms and was open from June to August 2025. Participation was voluntary, anonymous, and consisted of 38 questions. The questionnaire was distributed to dermatologists through several online

channels, including the newsletter of the Portuguese Society of Dermatology and Venereology.

In this survey, age groups were classified as follows: ≤ 40 years as the younger population, 41-60 years as the middle-aged population, and ≥ 61 years as the senior population. In Portugal, dermatological practice is primarily divided between public healthcare institutions and private practice (including clinics and hospitals). Professional titles in dermatology include residents and board-certified dermatologists.

Dermatologists were asked whether they used AI (Yes/No). To measure their levels of knowledge and attitudes toward AI, a Likert scale of five points was used to answer those questions. Categorical variables were summarized as frequencies and percentages. Beliefs and opinions regarding the role of AI among Portuguese dermatologists were treated as ordered categorical variables.

When the objective was to analyze differences in dermatologists toward AI across subgroups (stratified by age, gender, workplace and professional title), appropriate comparative statistical methods were applied. Namely, independence Chi-square (χ^2) and Fisher exact tests, and logistic regression models to obtain odds-ratio estimates and correspondent 95% confidence intervals (CIs). All tests were two-sided, and $p < 0.05$ were considered statistically significant.

Results

A total of 172 valid questionnaires were completed by Portuguese dermatologists. Overall, 66.3% ($n = 114$) of participants were female, and 41.3% ($n = 71$) were up to 40 years of age. Regarding professional titles, 16.9% ($n = 29$) were residents and 83.2% ($n = 143$)

were board-certified specialists, with 50.6% ($n = 87$) having < 20 years of specialty practice. The geographical distribution of respondents showed that 51.2% ($n = 88$) worked in the South of Portugal. In terms of workplace setting, 31.3% ($n = 54$) of respondents worked exclusively in public practice, 37.8% ($n = 65$) in private practice, three participants were retired, and 29.1% ($n = 50$) had both active public and private practices (Table 1).

Approaches to obtain AI information

We investigated how Portuguese dermatologists acquire information about AI in their daily professional and personal lives. The survey results showed that information was obtained through a variety of sources, most commonly from family and friends (52.9%) and through social media or news outlets (52.3%). Furthermore, 64.0% of respondents reported acquiring information about AI from two or more sources. Additional sources mentioned included courses, forums, workshops, faculty teaching, and scientific articles.

AI knowledge

In total, 95.9% of participating dermatologists reported being aware of AI. When asked about their level of familiarity, 70.3% agreed or strongly agreed that they were familiar with the concept. A total of 85.5% reported actually using AI tools. Among these, 37.2% indicated using AI at least once per week, while only 18.6% reported daily use (Table 2).

The most used AI tool among respondents was *ChatGPT* (91.3%), followed by *Google Gemini* (23.3%).

We further stratified and analyzed the levels of AI use among Portuguese dermatologists according to age, gender, geographical distribution, workplace setting, and professional title. Interestingly, stratified analyses revealed statistically significant differences by workplace (Fisher test, $p = 0.024$), age (χ^2 test, $p < 0.001$), and professional title (χ^2 test, $p < 0.001$) with respect to the use of AI. Dermatologists working in public settings practice and younger respondents were significantly more likely to use AI tools. Compared to private practice, the odds of AI being used by dermatologists in a combined public-private setting are not significantly different from one (odds ratio [OR] = 2.48, 95% CI: 0.773-7.383). As for dermatologists working in a public setting, the odds of using AI are significantly higher (OR = 7.29, 95% CI: 1.70-38.14). When compared to

Table 1. Demographic and professional characteristics of Portuguese dermatologists who participated in the survey

Sex	n (%)
M	58 (33.7)
F	114 (66.3)
Age	n (%)
≤ 40	71 (41.3)
41-60	63 (36.6)
≥ 61	38 (22.1)
Professional title	n (%)
Intern	29 (16.9)
Board-certified specialists ≤ 10	47 (27.3)
Board-certified specialists 11-19	40 (23.3)
Board-certified specialists ≥ 20	56 (32.6)
Geographic region	n (%)
Azores	3 (1.7)
South	88 (51.2)
Center	44 (25.6)
North	37 (21.5)
Workplace setting	n (%)
Public	54 (31.4)
Private	65 (37.8)
Private + public	50 (29.1)
Retired	3 (1.7)
	Total (%): 172 (100)

the younger dermatologists (age ≤ 40), the odds of using AI drop by 87.7% (OR = 0.123, 95% CI: 0.019-0.477) and by 92.9% (OR = 0.071, 95% CI: 0.011-0.287) for the age groups 41-59 and > 60, respectively. These findings indicate that clinical environment, career stage, and generational factors strongly influence AI adoption patterns within Portuguese dermatology. No significant differences were observed with respect to gender (Fisher test, $p = 0.169$) or geographic region (Fisher test, $p = 0.692$) (Table 3).

The roles of AI in daily life

A total of 83.7% of the inquired dermatologists reported that the main role of AI in their daily life (outside of the professional setting) was in conducting

Table 2. Responses of Portuguese dermatologists to the survey statements

Question	Yes (%)	No (%)	Strongly agree (%)	Agree (%)	Neither agree/disagree (%)	Disagree (%)	Strongly disagree (%)
Do you know what artificial intelligence is?	165 (95.9)	7 (4.1)	-	-	-	-	-
How familiar are you with the use of artificial intelligence?	-	-	32 (18.6)	89 (51.7)	39 (22.7)	11 (6.4)	1 (0.6)
Do you use AI tools?	147 (85.5)	25 (14.5)	-	-	-	-	-
Do you think AI has improved your clinical practice?	-	-	27 (15.7)	49 (28.5)	71 (41.3)	16 (9.3)	9 (5.2)
Do you think AI improves practice in dermatovenereology?	-	-	32 (18.6)	76 (44.2)	54 (41.4)	7 (4.1)	3 (1.7)
Do you think AI will change the future of dermatovenereology?	-	-	68 (39.5)	83 (48.3)	16 (9.3)	5 (2.9)	0 (0)
Do you plan to learn more about this topic?	-	-	80 (46.5)	72 (41.9)	17 (9.9)	3 (1.7)	0 (0)
Should AI education be included in residency training?	-	-	66 (38.4)	71 (41.3)	28 (16.3)	6 (3.5)	1 (0.6)
Do you believe that the use of AI in dermatovenereology will create a significant difference between those who use it and those who do not?	-	-	48 (27.9)	78 (45.3)	30 (17.4)	14 (8.1)	2 (0.6)

general information searches, while 51.7% indicated that AI was most useful for writing and text editing (e.g., emails and personal texts). Conversely, 14.5% reported not using AI in their daily life. Interestingly, 69.8% of participants reported using AI at least in two or more different situations in their daily life.

When asked how AI assists them in daily practice, 50.0% of respondents reported that it helps accelerate task completion, 33.7% indicated that it supports decision-making, 30.8% stated that it increases productivity, and 29.7% noted that it automates repetitive tasks.

The roles of AI in work life

A total of 39.5% of inquired dermatologists reported that the main role of AI was in assisting with text writing (e.g., clinical reports and scientific articles), while 36.6% indicated that AI was most useful for medical research and continuing education. Conversely, 27.9% reported not using AI in their professional practice.

When asked about the potential of AI to improve dermatology in general, 62.8% agreed or strongly agreed. Similarly, when asked about the potential benefits of AI for their own dermatological practice, 69.8% agreed or strongly agreed (Table 2).

When asked how they believed AI could benefit dermatovenereology practice, 64.5% of respondents indicated improved efficiency in administrative tasks, 46.5%

reported that AI could facilitate the processing and interpretation of clinical data for publication, and 4.1% stated that they did not consider AI to be helpful.

Regarding concerns about AI in dermatology, 72.1% of respondents reported worries about the potential for incorrect diagnoses or increased diagnostic errors, 63.4% expressed concern about the intrusion of other specialties, and 58.1% indicated ethical and legal concerns. In addition, 28.5% believed that AI could eventually replace dermatologists.

We further stratified and analyzed the belief that dermatologists could be replaced by AI according to participants' age, gender, workplace setting, and professional title. Logistic regression analysis showed that male gender has a positive trend toward greater fear of AI-driven replacement (OR = 1.96; $p = 0.052$), meaning that the odds of male doctors fear that AI will replace dermatologists is nearly twice the odds of that same feeling among female dermatologists, while no significant effect was observed for professional title ($p = 0.739$) or local of practice ($p = 0.148$). As for age, fear decreases with age, but no significant effect is found at the 5% level of significance. At 10%, a difference is found between the eldest and the youngest. At older ages, the odds of fearing that AI will substitute dermatologists drops to nearly one half of the odds of the same event among the youngest (OR = 0.46; $p = 0.099$) (Table 4).

Differences in AI use and perceived roles

When asked whether the use of AI could create significant differences between dermatologists who adopt it and those who do not, 73.2% (n = 126) agreed or strongly agreed, with the general perception being that AI users would have a considerable advantage. Only 3.1% considered AI use to be potentially harmful.

Regarding whether AI could impact the perception of professional competence, 61.7% of respondents agreed or strongly agreed. Among these, 78.9% believed the impact would be positive, indicating that the clinician is keeping up to date, whereas the remainder felt it could have a negative impact, suggesting that the clinician might be perceived as less competent. It would be interesting to see if this is related to age.

A total of 36.0% of respondents believed that AI might generate inequalities across different age groups. Regarding gender, 46.5% neither agreed nor disagreed that relevant differences would exist, although 15.2% agreed or strongly agreed. Among the respondents who provided a reason for potential gender-related differences in AI adoption (n = 41), 48.8% (n = 20) attributed this to greater confidence of males in using AI tools even without complete mastery.

Application of AI in the future

When asked whether AI will change the future of dermatovenereology, 48.3% agreed, and 39.5% strongly agreed. Among those who believed in such an impact, 97 (62.2%) respondents indicated that this change would occur within the next 5 years.

We also investigated dermatologists' willingness to learn more about AI. Overall, 88.4% of participants agreed or strongly agreed that they intended to pursue further education on the topic, whereas only 1.7% strongly disagreed. When asked whether AI training should be incorporated into residency programs, 79.7% agreed or strongly agreed (Table 2).

The main barriers identified for the implementation of AI were lack of training (66.3%), ethical–legal issues (54.1%), and lack of confidence from clinicians, technical teams, and institutional leadership (51.7%).

Discussion

To our knowledge, this is the first study to specifically investigate the opinions of Portuguese dermatologists regarding AI. A total of 172 dermatologists from across the country participated in the survey, representing

Table 3. Stratified analysis of artificial intelligence (AI) use by age, gender, geographical region, workplace setting, and professional title among Portuguese dermatologists

	Yes	No	p
Workplace			
Private	14	6	p < 0.003
Public	51	3	
Private + public	81	14	
Age			
≤40	69	2	p < 0.001
41-59	51	12	
≥60	27	11	
Resident vs board certified dermatologist			
Board certified	118	25	p < 0.001
Resident	29	0	
Sex			
Female	94	20	p = 0.169
Male	53	5	
Geographical distribution			
South	76	12	p = 0.799
Center	37	7	
North	32	5	
Azores	2	1	

Table 4. Stratified analysis of artificial intelligence (AI) use among Portuguese dermatologists according to age, gender, geographical region, workplace setting, and professional title

	Fear of being replaced by AI		OR	P
	Yes	No		
Sex				
Female	22	87	1.96	0.052
Male	27	36		
Resident vs board certified dermatologist				
Board certified	9	20	-	0.739
Resident	40	103		
Workplace				
Private	3	17	-	0.263
Public	30	65		
Private + public	15	39		
Age				
≤ 40	26	45	0.46	0.110
41-59	15	48		
≥60	8	30		

approximately 38% of the estimated 450 practicing dermatologists in Portugal. The female-to-male ratio among participants was 2:1. Most respondents were board-certified specialists and were primarily employed in private practice settings.

According to the results, inquired dermatologists most frequently obtained information about AI through family and friends, as well as through social media and news outlets. Importantly, 64.0% of dermatologists reported acquiring information about AI using two or more approaches, which suggests an active interest in learning about the topic from multiple sources.

Notably, 95.9% of participants indicated that they were aware of AI. In daily life, most of the respondents reported using AI primarily for general information searches and text-related tasks, such as writing and editing emails. This reflects a pattern similar to that observed in the general population, where generative AI tools, such as ChatGPT, are increasingly used for communication and information retrieval.⁵ Interestingly, a substantial proportion of participants (nearly 70%) reported using AI in two or more different contexts, indicating growing familiarity and integration of these tools into everyday routines. However, only a small proportion (18.6%) reported daily use, suggesting that, despite widespread awareness and moderate adoption, AI has not yet become a fully embedded, routine component of dermatologists' professional or personal workflows. This limited daily use may reflect several factors, including variability in digital literacy, uncertainty regarding the reliability of AI tools, lack of formal training, and the current absence of structured clinical integration pathways in dermatovenereology.

In professional settings, the most frequent uses of AI among respondents were text generation (39.5%) and support for medical research or continuing education (36.6%), while only 27.9% reported not using AI at work. This suggests that, although AI has yet to become a routine diagnostic tool in Portuguese dermatology, it is already perceived as a valuable aid in administrative, research, and educational activities. Comparable trends have been observed internationally. In a nationwide Chinese survey of 1,228 dermatologists, more than 95% viewed AI primarily as an assistant in routine diagnostic and therapeutic activities, rather than as a replacement for clinicians.³ Similarly, an Indian study involving 166 dermatologists found that 62.05% expressed interest in AI, although 39.76% reported only basic knowledge of the technology.⁶ A global survey conducted by the International Dermoscopy Society, including 1,271 participants, showed that while 85.1% were aware of AI as an emerging topic in dermatology, only 23.8% reported good or excellent knowledge, with higher AI literacy strongly associated with more positive attitudes toward its use ($p < 0.001$).⁷ An Australian national survey of 122 dermatologists further

demonstrates that the adoption of AI in clinical practice remains in an early phase: although 44% had used AI at least once, only 12.3% reported regular clinical use and 17% used AI for administrative purposes, reflecting limited routine integration.⁸

Most respondents in our study agreed that AI has the potential to improve dermatology as a whole (62.8%) and benefit their own clinical practice (69.8%), particularly by increasing efficiency in administrative tasks (64.5%) and enhancing the processing and interpretation of clinical data. These results are consistent with previous studies showing that dermatologists primarily view AI as a tool to enhance efficiency and diagnostic accuracy.^{3,7} A U.S. survey of 121 dermatologists reported similar trends: 46% believed that AI would have a positive impact on their practice, and 76% stated they would be more likely to biopsy a lesion deemed clinically benign if an AI system suggested malignancy, whereas only 8% would be less likely to biopsy a suspicious lesion if the AI predicted a benign diagnosis.⁹ In contrast, the Australian national survey found considerably lower confidence in AI for clinical decision-making.⁸

Stratified analyses revealed that the use of AI among Portuguese dermatologists varied significantly according to workplace setting, age, and professional title, suggesting that age, experience, and professional environment influence the adoption of these technologies. In contrast, no significant differences were observed regarding gender or geographical region, indicating that access to or interest in AI tools is relatively uniform across these groups. In the Chinese national study, differences were also observed between dermatologists working in public versus private institutions, but no significant variation was found across other demographic subgroups.³ In contrast, the Indian study identified a clear generational effect: dermatologists over 35 years of age were significantly more welcoming of new AI developments (agree/strongly agree: 89% vs. 61.2%; $p = 0.012$) and more likely to believe that AI would benefit dermatology (agree/strongly agree: 50.9% vs. 45.9%; disagree/strongly disagree: 20% vs. 34.2%; $p = 0.03$).⁶ In the international survey conducted by the International Dermoscopy Society, male dermatologists demonstrated greater enthusiasm and less fear toward AI integration, both within dermatology and medicine in general.⁷ The absence of gender differences in AI use in our study is consistent with recent global trends reported in 2025, which indicate that gender parity in the use of generative AI has now been reached.⁵ This contrasts with data from previous years,

where women were reported to use AI approximately < 20% men.⁵

Interestingly, 73.2% of the inquired dermatologists believed that AI adoption could create differences between users and non-users, giving an advantage to those who integrate it into their work. About one-third (36%) feared that AI might deepen inequalities between age groups, while nearly half remained neutral regarding gender-related differences. Among those who offered an explanation, male dermatologists were perceived as more confident in using AI tools, even without full mastery, an observation consistent with broader literature on gender differences in technology adoption.⁵

Regarding the perceived risk of replacement by AI, 28.5% of Portuguese respondents believed that dermatologists might eventually be replaced by AI systems. This proportion is notably higher than in other studies, where < 13% expressed such concerns.^{3,6,7,8,10} Interestingly, in our study, male and younger dermatologists reported higher levels of fear regarding potential replacement, contrasting with international findings where male physicians generally showed greater enthusiasm and less apprehension toward AI adoption.⁷ With regard to age, and similarly to the findings reported in India, younger dermatologists in our study were more likely to express concern about being replaced by AI, which may reflect a higher degree of professional insecurity earlier in their careers.⁶ Furthermore, AI use decreased significantly with increasing age, which may partly explain why older dermatologists reported less fear of AI integration: lower exposure to these technologies may translate into a reduced perception of threat. Moreover, senior dermatologists generally have established careers and professional stability, whereas younger dermatologists, still in the early stages of their professional development, may experience greater insecurity regarding the potential impact of AI on their future careers.

An overwhelming majority of respondents (88.4%) expressed interest in learning more about AI, and 79.7% supported its inclusion in dermatology residency training programs. These results indicate a strong educational demand and readiness among Portuguese dermatologists to engage with emerging digital tools, in line with findings from other studies. For example, in the International Dermoscopy Society survey, 79.8% of dermatologists reported that AI training should be incorporated into medical education,⁷ and similar views were echoed in the Australian survey, which also highlighted the need for structured AI education among clinicians.⁸ Comparable attitudes were observed in the

American Medical Association study, where physicians similarly endorsed the integration of AI-related competencies into medical training.¹¹

Nevertheless, several concerns persist among Portuguese dermatologists. The most frequently reported were the risk of incorrect or inaccurate diagnoses (72.1%), intrusion from other medical specialties (63.4%), and ethical or legal challenges (58.1%). These findings are largely consistent with international trends.⁷⁻¹⁰ However, concerns regarding the potential intrusion of other non-dermatological specialties appear to be unique to our sample, as no such fears have been reported in previous studies. This issue may be highly context-dependent and influenced by country-specific legal and regulatory frameworks. While the expansion of telemedicine presents an opportunity to improve access to dermatological care, it may also increase the risk of diagnostic inaccuracies if AI-assisted evaluations are performed by non-dermatologists.

The main barriers identified in our study were lack of training (66.3%), ethical-legal concerns (54.1%), and limited institutional confidence (51.7%), highlighting the urgent need for coordinated strategies to address these challenges. Enhancing AI literacy through structured education, ensuring clear regulatory frameworks, and fostering trust between clinicians and digital systems are essential steps to facilitate the safe and effective integration of AI into dermatological practice.

These findings are consistent with studies in other medical disciplines – including among medical students,¹² pathologists,¹³ radiologists,¹⁴ and physicians from multiple specialties¹¹ – showing generally positive yet cautious attitudes toward AI integration.

However, several limitations should be acknowledged. Most participants were board-certified specialists, and it would have been valuable to include a higher proportion of residents. The possibility of selection bias cannot be excluded, as dermatologists with more favorable attitudes toward AI may have been more likely to participate and complete the survey. Furthermore, the total number of respondents was limited, and the questionnaire design may have allowed for some degree of subjective interpretation of the questions. Additional items, such as exploring which specific dermatological conditions might benefit most from AI integration, could have provided further insight.

Despite these limitations, this study has several strengths. It represents the first national survey exploring AI in dermatology in Portugal, with a diverse sample in terms of region, age, and professional setting. The comprehensive questionnaire and rigorous statistical

analysis allowed for an in-depth evaluation of dermatologists' knowledge, attitudes, and usage patterns, providing valuable data to inform future training initiatives and policy planning.

The results of this survey suggest that AI is generally well received within the field of dermatology. Despite the overall optimistic responses, it remains premature to predict how AI will ultimately be implemented and incorporated into routine clinical practice. The potential advantages and limitations of AI in dermatology have been increasingly explored in recent literature.^{1,15} Furthermore, Lim and Flaherty have emphasized that AI should be judiciously integrated into mainstream clinical practice only once dermatologists have received appropriate training in its use.¹⁶

Conclusion

Most respondents in this study believe that AI will enhance both diagnostic accuracy and administrative efficiency, reflecting a forward-looking attitude toward digital innovation in dermatology. However, Portuguese dermatologists still expressed concerns about professional displacement and medico-legal implications. Given the rapid pace of technological advancement, AI is poised to become one of the most transformative developments in modern dermatology. Ensuring structured education, transparent governance, and responsible implementation will be essential to harness its full potential while preserving the central and irreplaceable role of the dermatologist in patient care.

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Conflicts of interest

None.

Ethical considerations

Protection of human subjects and animals. The authors declare that no experiments on humans or animals were performed for this research.

Confidentiality, informed consent, and ethical approval. The authors have obtained approval from the Ethics Committee for the analysis of routinely collected and anonymized clinical data; therefore, individual informed consent was not required. Relevant ethical recommendations have been followed.

Declaration on the use of artificial intelligence. The authors declare that no generative artificial intelligence was used in the writing or creation of the content of this manuscript.

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