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DERMATOLOGICAL MISINFORMATION IN THE DIGITAL AGE: SOCIAL MEDIA, PATIENT TRUST, SELF-DIAGNOSIS, AND TREATMENT DECISION-MAKING – A CRITICAL NARRATIVE REVIEW

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ABSTRACT

Background: Social media platforms are increasingly used as sources of information and advice regarding acne, psoriasis, photoprotection, and skin care. The reliability of available content varies considerably, and its popularity does not necessarily reflect its scientific quality.

Objective: To critically evaluate the available evidence on the nature of dermatological misinformation, the credibility of its sources, patient trust, and the potential influence of online health information on self-diagnosis and treatment decision-making.

Methods: A narrative review of original studies and review articles was conducted, primarily using literature identified through PubMed/MEDLINE. The review included social media content analyses, questionnaire-based studies, and experimental research investigating interventions aimed at counteracting misinformation.

Results: Available studies demonstrate substantial variability in the quality of dermatological information shared on social media platforms, with a considerable proportion of content produced by individuals without medical qualifications. Survey findings confirm that patients frequently seek and use online health advice. However, the observed associations do not establish a direct causal relationship between exposure to misinformation and objectively measured treatment outcomes.

Conclusions: Improving patient education, strengthening physician–patient communication, and conducting prospective studies are essential to addressing dermatological misinformation. Future research should distinguish between exposure to online content, subsequent treatment decisions, and objectively documented clinical harm.

KEYWORDS

Dermatology, Social Media, Health Misinformation, Patient Trust, Health Behavior

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1. Introduction

1.1. Dermatology as a Distinct Area of Digital Health Communication

Access to health information now extends beyond medical consultations, textbooks, and healthcare institutions' websites [1, 2]. Videos, brief educational guides, and personal accounts form an extensive information ecosystem in which scientific knowledge coexists with advertising, self-presentation, and individual experiences [1, 2]. This is particularly relevant to dermatology: skin diseases are visible, their manifestations can be readily photographed, and the outcomes of skincare interventions or medical treatments are often presented as visual transformations [1, 2]. Yet an engaging format may provide insufficient information about clinical indications, contraindications, and diagnostic uncertainty [1, 2]. Literature reviews have highlighted both the educational benefits and the ethical challenges of dermatologists' involvement in social media [1, 2].

Digital communication in dermatology may improve access to basic health information, help patients recognize when to seek medical advice, and support adherence to treatment recommendations [1, 2]. These potential benefits, however, coexist with risks [1, 2]. A short video about acne treatment may omit important information about the time needed for clinical improvement, potential adverse effects, pregnancy-related precautions, drug interactions, or differential diagnosis [1, 2]. Even factually accurate information can therefore be misinterpreted when it lacks appropriate clinical context [1, 2]. Evaluating such content requires attention to the accuracy of individual statements, its completeness, and its practical relevance to clinical decision-making [1, 2].

A defining feature of social media is the relationship between content dissemination and user engagement [3]. Views, comments, and likes indicate reach and audience response, but do not constitute scientific peer review [3]. Analyses of online content about psoriasis and photoprotection suggest that incomplete information or material questioning established preventive measures can attract considerable public attention [3]. Popularity alone, however, does not establish that content is inaccurate [3]. Assessments should therefore distinguish how frequently misinformation occurs from the extent to which users engage with it [3].

1.2. Definitions and Scope of the Problem

The literature distinguishes between misinformation, defined as false or misleading information disseminated regardless of the intentions of the person sharing it, and disinformation, which refers to information deliberately created or disseminated with the intention of deceiving its audience [3, 4]. In dermatological research, the intentions of content creators are generally difficult to assess or measure [3, 4]. Therefore, the primary focus of evaluation is the consistency of published content with scientific evidence, its completeness, the transparency of its sources, and its potential influence on the audience [3, 4]. A systematic review by Suarez-Lledo and Alvarez-Galvez (2021) demonstrated that health misinformation affects numerous medical disciplines, while differences in definitions and research methodologies complicate comparisons of its prevalence across studies [3, 4].

Not every account based on a patient's personal experience constitutes misinformation [1, 2]. For example, a report of skin irritation following the application of a cosmetic product may accurately describe an individual's reaction [1, 2]. The problem arises when an isolated experience is generalized into a universal claim regarding a product's efficacy or safety [1, 2]. Similarly, sponsored content is not necessarily inaccurate. However, its commercial nature should be clearly disclosed, and supporting evidence should be presented without selectively omitting relevant limitations [1, 2].

It is also important to distinguish between information concerning disease prevention and information related to treatment [1, 2]. Advice regarding sunscreen use primarily concerns preventive health behaviors, whereas recommendations for acne or psoriasis treatment may prompt patients to modify their pharmacological therapy [1, 2]. Both the potential mechanisms of harm and the types of studies required to demonstrate such harm differ between these contexts [1, 2].

1.3. Aim of the Review

The aim of this review is to provide a critical synthesis of research on dermatological misinformation disseminated through social media, with particular emphasis on patient behavior, the physician–patient relationship, and treatment safety. The specific research questions address the nature of dermatological misinformation such as: differences between professional and non-professional information sources, the relationship between content popularity, and scientific credibility, the potential influence of online information on self-diagnosis and self-treatment, the extent to which associated clinical harm can be objectively documented and the potential effectiveness of educational interventions aimed at counteracting misinformation.

2. Methodology

2.1. Study Design and Sources

This study was conducted as a critical narrative review with a structured approach to identifying relevant publications. This design allows the integration of studies with different units of analysis, including online content, patients, content creators, and participants in experimental studies.

The review drew primarily on records indexed in PubMed/MEDLINE and available abstracts of dermatological studies, supplemented by selected methodological and experimental publications on health misinformation. The literature search focused on publications from 2016 to 2026. The conceptual search strategy combined the terms dermatology, skin disease, acne, psoriasis, sunscreen, social media, TikTok, Instagram, YouTube, misinformation, disinformation, credibility, information quality, trust, self-treatment, health behavior, and patient decision-making.

Publications on the general mechanisms of misinformation were included solely to inform the interpretation of findings and the discussion of potential interventions. They were not treated as direct evidence of dermatology-specific clinical outcomes.

2.2. Study Selection and Evidence Appraisal

Priority was given to original research, including social media content analyses, cross-sectional studies involving patients, studies comparing content produced by medical professionals and non-medical creators, and interventional studies. Systematic and narrative reviews were used to contextualize the findings within the broader body of scientific literature.

3. Results

3.1. Acne Vulgaris: Content Quality and Patient Behavior

Acne vulgaris (AV) is one of the most frequently investigated dermatological conditions in social media research [5]. Zheng et al. (2021) evaluated 100 acne-related TikTok videos and reported low information quality scores [5]. Although these findings do not indicate that every video contained false information, they highlight the limited completeness of the information provided in the selected sample [5]. From the patient's perspective, content presenting a single treatment approach as a universally effective solution may be particularly problematic, especially when it fails to address the type of acne lesions, expected treatment duration, or potential adverse effects [5].

In a study by Yousaf et al. (2020), involving 130 patients with acne, 45% of participants reported using social media to obtain treatment advice [6]. Among those who sought information through these platforms, 81% had tried over-the-counter products, while 40% had made dietary modifications [6]. Furthermore, 17% of social media users had initiated oral supplementation, including probiotics and oils, despite the lack of sufficient evidence supporting the use of these supplements in acne treatment according to the American Academy of Dermatology (AAD) guidelines. Only 31% of the treatment-related changes were considered fully consistent with AAD recommendations by the study authors [6]. This does not necessarily imply that the remaining interventions resulted in adverse clinical outcomes, rather, it highlights discrepancies between practices influenced by online information and evidence-based treatment guidelines [6].

The study by Kayıran et al. (2021) included 1,609 patients with acne vulgaris [7]. Among 1,489 social media users, 46.31% regularly and 28.77% occasionally searched for disease-related information on these platforms [7]. Importantly, 76% of respondents did not discuss the information they encountered online with their physicians, while 69.73% expressed a preference for online dermatological content to be published by

qualified experts, such as dermatologists [7]. These findings suggest both a substantial demand for accessible health information and a potential communication gap during medical consultations [7]. However, the study did not establish whether the absence of such discussions resulted from distrust, time constraints, or other factors [7].

Another cross-sectional study involving 481 patients with acne found that 78.3% of participants used social media as a source of disease-related information [8]. The study also indicated that male patients with acne vulgaris were more susceptible to recommendations presented online [8]. Similar associations were observed among single individuals, patients within the first two years of their disease, and younger participants, including adolescents [8]. Taken together, these findings suggest that seeking acne-related advice through digital platforms is common, although the reported percentages are not directly comparable because of differences in study populations and methodologies [8].

A study investigating trust in dermatologists versus social media influencers among 100 patients with acne found that 81% of respondents reported a high level of trust in dermatologists, while 97% stated that they would prioritize a physician's opinion when faced with conflicting recommendations from a dermatologist and an influencer [9]. Nevertheless, 67% of participants reported seeking information from influencers (Trust in Dermatologists Versus Social Media Influencers Among Acne Patients, 2025) [9]. These findings suggest that although patients generally place greater trust in medical professionals than in social media influencers, many continue to engage with influencer-generated content [9]. Thus, patients may simultaneously value professional medical expertise and the accessibility or appeal of non-professional online communication [9].

From a clinical perspective, these questionnaire-based studies support routinely asking patients about their sources of health information and the products or treatments they use. However, they do not allow reliable estimation of the incidence of skin irritation, discontinuation of effective treatment, or delayed diagnosis attributable to specific online publications. Establishing these relationships would require linking measured exposure to social media content with prospective monitoring of patient decisions and objective assessments of treatment outcomes.

3.2. Psoriasis and Chronic Inflammatory Skin Diseases

In psoriasis, online content addresses both topical and systemic treatments, as well as patients' personal experiences of living with a chronic disease [10]. Qi et al. (2016) evaluated 47 psoriasis-related YouTube videos, classifying 17% as useful, 21% as misleading, and 62% as personal experiences [10]. The latter category should not be regarded as synonymous with misinformation [10]. Personal narratives may provide emotional support to patients but cannot replace evidence-based information regarding treatment efficacy and safety at the population level [10]. The number of views received by videos classified as useful was comparable to that of misleading videos and those presenting personal experiences. Furthermore, the study found that misleading videos generated more likes and comments, potentially encouraging individuals seeking psoriasis-related information to engage with such content and increasing their exposure to inaccurate or potentially harmful treatment advice [10].

Mueller et al. (2019) analyzed 100 popular psoriasis-related YouTube videos and reported a different distribution of content quality: 52% of the videos were classified as misleading, while 11% were considered potentially dangerous [11]. However, this substantial difference compared with the findings of Qi et al. does not necessarily indicate a change in the overall quality of psoriasis-related content on YouTube [11]. The studies differed in their sampling strategies, observation periods, and operational definitions of content categories [11]. This illustrates how methodological heterogeneity limits the ability to draw reliable conclusions about temporal trends in online health information quality [11].

Gorrepati and Smith (2022) employed the DISCERN instrument to evaluate the quality of psoriasis treatment information published on Instagram [12]. Although the use of a standardized assessment tool is valuable, the interpretation of quality scores depends on whether the instrument adequately captures the characteristics of short-form posts and visually oriented content [12]. Their findings suggested that Instagram performed less favorably in terms of information quality than other social media platforms, including YouTube [12].

A content analysis of psoriasis treatment-related videos on TikTok compared materials published by physicians with those created by individuals without medical qualifications [13]. Physician-generated content received higher DISCERN quality scores, although viewer engagement did not differ significantly between the two groups (Tips, Trends, and Truths, 2024) [13]. These findings suggest that greater involvement of medical professionals may improve the quality of dermatological information available on social media. However, they do not demonstrate that viewers correctly interpret such information or subsequently make safer treatment decisions [13]. Given TikTok's growing popularity, the platform may also offer opportunities for disseminating evidence-based information about dermatological conditions, promoting health education, and counteracting misinformation shared by individuals without appropriate medical expertise.

3.4. Content Creators, Professionalism, and Popularity Metrics

The study DermTok: How TikTok Is Changing the Landscape of Dermatology Patient Education evaluated 400 videos addressing selected dermatological conditions [17]. Patients constituted the largest group of content creators (40.8%), while dermatologists accounted for 16.8% of the videos, 37.3% of the content was produced by licensed healthcare professionals [17]. The study described the distribution of content creators rather than directly assessing the scientific accuracy of each individual statement [17]. Therefore, the professional status of a content creator should not automatically be equated with the accuracy or inaccuracy of the information presented (DermTok, 2023) [17].

Content produced by physicians may be more likely to align with established medical knowledge, as suggested by some comparative analyses. However, professional authorship alone does not resolve the challenges of effective health communication [17, 18]. Short-form videos may omit essential clinical context, while identifying oneself as a physician does not replace the need to provide supporting scientific evidence [17, 18]. In a questionnaire-based study involving 137 Turkish dermatologists, 34% of respondents reported publishing educational content, while only a small proportion regularly included references to scientific literature (Dermatologists' Way of Informative Content, 2025) [17, 18]. Although these findings cannot be generalized to all dermatologists, they highlight the need for clearly defined standards of professional communication on social media [17, 18].

Engagement metrics are important indicators of the reach of educational content but should not be regarded as substitutes for scientific quality assessment [1, 17]. Low-quality videos may attract substantial attention through emotionally engaging narratives, oversimplified solutions, or promises of rapid results [1, 17]. Conversely, scientifically accurate content may also achieve high levels of engagement when presented in clear language and a well-structured format [1, 17]. Therefore, interventions aimed at improving dermatological communication on social media should assess both the scientific reliability of published content and the extent to which audiences accurately understand and interpret the information provided [1, 17].

3.5. Trust, Self-Diagnosis, and Treatment Decisions

Trust in medical information is multidimensional [7, 9]. Patients may rely primarily on dermatologists for treatment guidance while also consulting social media influencers for personal experiences, skincare products, and practical advice on daily skin care [7, 9]. In a study of 100 patients with acne, 97% of respondents stated that they would prioritize a dermatologist's opinion if it conflicted with an influencer's recommendation. This finding suggests that frequent social media use does not necessarily reflect declining trust in medical professionals (Trust in Dermatologists Versus Social Media Influencers Among Acne Patients, 2025) [7, 9]. The study also reported greater improvements in skin condition among patients who received advice from both influencers and dermatologists than among those who followed dermatologists' recommendations alone [9].

Self-diagnosis based on photographs and short videos has particular limitations when dermatological conditions share similar clinical features [5, 6]. Accurate diagnosis may require a physical examination and a detailed assessment of lesion progression, relevant exposures, medication use, and comorbidities [5, 6]. A patient's observation that a lesion resembles an online image does not constitute a clinical diagnosis [5, 6]. This review identified insufficient evidence to estimate the proportion of incorrect self-diagnoses attributable to specific social media content.

Self-treatment must likewise be distinguished from actual clinical harm [6, 7]. Purchasing a mild skincare product and discontinuing medication prescribed by a dermatologist are fundamentally different behaviors with different levels of potential risk [6, 7]. Questionnaire-based studies document self-reported changes in behavior, but rarely link them to prospective assessments of disease severity, adverse events, or delays in seeking medical care [6, 7]. Without this evidence, the relative risk of harm attributable to misinformation cannot be estimated reliably [6, 7].

Measuring exposure to online information presents another important research gap [7, 9]. Patients may recall a recommendation but not its source, encounter videos offering conflicting advice, or change their behavior under the combined influence of family members, advertising, and healthcare professionals [7, 9]. Establishing a causal relationship between content on a specific platform and subsequent patient behavior would require controlling for these potential confounders [7, 9]. Conclusions should therefore describe observed associations rather than imply that misinformation directly caused particular treatment decisions [7, 9].

3.6. Interventions to Counteract Misinformation

Interventions aimed at counteracting misinformation can target different stages of the information-processing pathway [3, 19]. Before exposure, individuals can be equipped with skills to recognize manipulative techniques. During exposure, contextual labels and explanatory information can be provided and after encountering misleading content, corrective information can be introduced [3, 19]. Each of these strategies requires an independent evaluation of its effectiveness [3, 19]. Improvements in knowledge test scores do not necessarily translate into changes in treatment decisions, while increased viewership of educational content does not demonstrate a measurable impact on health outcomes [3, 19].

Roizenbeek et al. (2022), through randomized studies and a field experiment, demonstrated that brief educational interventions designed to teach individuals how to recognize manipulative techniques can improve resistance to selected forms of misinformation [19]. These findings are relevant to the development of health communication strategies but do not constitute direct evidence of effectiveness in dermatology [19]. Applying similar interventions to acne, photoprotection, or psoriasis would require condition-specific studies with appropriate outcome measures, preferably including actual patient decisions [19].

Communication during dermatological consultations may also play an important role in addressing misinformation [2, 7]. Given the widespread use of online health advice, dermatologists can routinely ask patients about the products they use, their concerns, and the online content that may have influenced their expectations [2, 7]. Discussing such information collaboratively may help clarify the distinction between individual experiences and scientific evidence [2, 7]. Although this approach is clinically reasonable, its effectiveness in reducing misinformation-related harm has yet to be established [2, 7].

Collaboration with digital content creators may expand the reach of professional health education, but it also raises concerns regarding financial transparency and editorial independence [1, 2]. Any communication strategy should disclose commercial relationships and avoid presenting a single product as universally appropriate for all patients [1, 2]. Equally important is ensuring that educational content is accessible to individuals with varying levels of health literacy and from diverse demographic backgrounds [1, 2]. Otherwise, even scientifically reliable educational campaigns may predominantly reach individuals who are already well informed [1, 2].

3.7. Interpretation of Information Quality Measures

Health information quality assessment instruments provide a structured framework for evaluating online content, but they do not necessarily measure the same constructs [5, 10]. DISCERN focuses on the quality of information concerning treatment choices, including the presentation of benefits, risks, and therapeutic alternatives [5, 10]. The Global Quality Score (GQS) provides a more general assessment and is frequently used in studies evaluating online videos [5, 10]. In contrast, the category of accuracy may refer specifically to the consistency of individual statements with established clinical guidelines [5, 10]. Comparing results obtained using these instruments without considering their respective scopes may lead to apparent inconsistencies [5, 10].

For example, a video demonstrating the correct application of sunscreen may provide accurate information but receive a low completeness score if it does not address all relevant aspects of photoprotection [5, 10]. Similarly, a patient's personal account may have considerable social value while failing to meet the criteria expected of an evidence-based treatment guide [5, 10]. Future studies should therefore consider assessing factual accuracy, contextual completeness, transparency of authorship, and usefulness to the intended audience as separate dimensions [5, 10]. Such an approach would facilitate a more meaningful interpretation of differences between social media platforms and content formats [5, 10].

Engagement metrics should be analyzed as a distinct dimension of online health communication [5, 11]. View counts reflect potential reach but do not confirm that users have carefully examined or understood the content [5, 11]. A like may indicate approval, interest, or simply a positive reaction to an appealing presentation style [5, 11]. Comments may express criticism, while sharing a video may serve to warn others about an inaccurate claim. Without examining the meaning and context of these interactions, engagement metrics cannot reliably be interpreted as indicators of trust [5, 11].

Research on photoprotection-related content has demonstrated that critical messages may generate substantial engagement despite representing only a small proportion of the analyzed material (Marcon et al., 2026) [5, 11]. Consequently, future research should systematically document engagement metrics, publication dates, content formats, and the nature of user comments [5, 11]. Only by combining these data with audience-based research will it be possible to determine whether high engagement translates into acceptance of misinformation or changes in health-related behavior [5, 11].

Inter-rater reliability is another important methodological consideration. Categories such as misleading, inaccurate, or potentially harmful may require expert interpretation. When studies do not provide clearly defined coding criteria or measures of agreement between evaluators, assessing the reproducibility of their findings becomes more difficult. Future research should therefore employ standardized coding protocols, pilot assessments, and independent classification of at least a subset of the analyzed materials.

The temporal relevance of reference sources is equally important. Clinical recommendations may change over time, and evaluating historical content against subsequently updated guidelines requires careful interpretation. In the present review, formal methodological quality ratings were not assigned to studies for which complete descriptions of the research procedures could not be verified.

3.8. Audience Diversity and Access to Information

Patients do not constitute a homogeneous audience [7, 9]. Age, disease experience, educational attainment, health literacy, and previous interactions with healthcare professionals may influence how individuals seek and interpret health information [7, 9]. Questionnaire-based studies involving patients with acne have identified demographic differences in social media use. However, these associations alone do not provide sufficient evidence to conclude that particular groups are more susceptible to misinformation [7, 9]. Such conclusions would require direct assessment of individuals' ability to identify inaccurate information and the behaviors resulting from its acceptance [7, 9]. Furthermore, individuals who actively participate in online surveys may differ from patients who primarily rely on traditional sources of health information [7, 9]. The

interpretation of these findings should therefore account for potential selection bias and the limited generalizability of data obtained from individual research centers [7, 9].

Representation of different skin types and clinical conditions is another important consideration [16]. An analysis of photoprotection-related content revealed that only a very small proportion of the evaluated materials addressed the needs of individuals with darker skin phototypes (Lin et al., 2024) [16]. Although this finding does not demonstrate poorer sun-protective behaviors within this population, it highlights the insufficient representation of its specific needs in popular online content [16]. Dermatological education should avoid presenting a single clinical manifestation of a disease as universally representative [16]. Greater diversity in clinical images, language, and illustrative examples may facilitate the recognition of dermatological concerns, but such efforts must be accompanied by explanations of the limitations of image-based diagnosis [16]. Otherwise, attempts to improve representation could paradoxically reinforce unwarranted confidence in self-diagnosis [16].

Patients with chronic dermatological conditions represent another distinct group, as they may repeatedly seek health information in response to changes in symptoms and treatment regimens [1, 2]. For these individuals, online communities can provide emotional support and practical guidance for managing everyday challenges associated with their conditions [1, 2]. At the same time, repeated exposure to unverified recommendations may reinforce beliefs that subsequently become difficult to correct [1, 2]. Participation in online patient communities should not automatically be equated with risk-taking behavior, an appropriate assessment requires distinguishing between social support, the sharing of personal experiences, and the provision of therapeutic advice [1, 2].

3.9. The Importance of Disease Type in Risk Assessment

The consequences of inaccurate information depend on the nature of the dermatological condition [5, 6]. In acne vulgaris, popular online recommendations may concern skincare products, dietary modifications, and over-the-counter treatments [5, 6]. In psoriasis, a chronic disease that may follow a relapsing course, unverified recommendations may also involve more potent therapeutic interventions [5, 6]. In skin cancer prevention, particular importance is attached to beliefs about photoprotection, the interpretation of pigmented skin lesions, and the need for medical consultation [5, 6].

From a methodological perspective, it is inappropriate to extrapolate the proportion of inaccurate or incomplete content identified in one dermatological area to another [5, 6]. Furthermore, the concept of harm requires a condition-specific definition. Depending on the clinical context, harm may include skin irritation, unnecessary financial expenditure, treatment non-adherence, delayed diagnosis, or the persistence of preventive behaviors that are inconsistent with established recommendations [5, 6]. Available studies frequently do not measure these outcomes directly. Consequently, their incidence cannot be reliably compared, nor can a single overall risk estimate be derived [5, 6].

Practical recommendations should reflect the actual strength of the available evidence [6, 7]. Evidence that some patients use social media to inform their treatment choices supports discussing sources of health information during clinical consultations [6, 7]. However, it does not justify assuming that all such patients require intensive educational interventions or that a particular social media platform is responsible for treatment failure [6, 7]. Similarly, a high proportion of critical content within a specific sample does not demonstrate the prevalence of harmful health behaviors in the general population [6, 7]. Further research is needed to identify patient groups that may benefit from additional support while avoiding the stigmatization of individuals who actively seek health information online [6, 7].

The collaborative development of educational materials by dermatologists, patients, and health communication specialists should also be considered [1, 2]. Patient involvement may help identify questions and concerns that remain insufficiently addressed during medical consultations, while clinicians can ensure that the information provided is consistent with current scientific evidence [1, 2]. Communication specialists may contribute expertise in selecting appropriate language and presentation formats [1, 2].

Nevertheless, the effectiveness of such a collaborative approach cannot be assumed [1, 2]. An appropriate evaluation would involve comparing collaboratively developed educational materials with standard materials in terms of information comprehension, patient trust, and decision-making. Longer-term follow-up should additionally assess treatment adherence and safety [1, 2]. Only through such evaluations will it be possible to determine whether the accessibility, appeal, and scientific accuracy of educational content translate into measurable health benefits [1, 2].

3.10. Commercial Transparency and the Regulatory Context

In dermatology, health communication frequently overlaps with cosmetic product marketing [1, 2]. This close relationship may make it difficult for audiences to determine whether a publication presents impartial information, the author's personal experience, or product promotion [1, 2]. Commercial collaboration does not necessarily imply that the claims being made are false [1, 2]. However, it increases the importance of clearly disclosing financial relationships and distinguishing personal opinions from information supported by scientific evidence [1, 2]. Studies analyzing photoprotection-related content have identified promotional materials, although their prevalence varied depending on the video selection methodology [1, 2]. Therefore, the proportion of advertisements identified in a particular sample should not be interpreted as representative of an entire platform [1, 2]. A more informative approach would be to investigate whether users recognize sponsored content and whether such recognition influences their perceptions of credibility [1, 2].

Responsibility for the quality of health information does not rest exclusively with physicians [1, 3]. Platform policies, sponsored content labeling practices, content moderation procedures, and mechanisms for reporting potentially harmful materials also play important roles [1, 3]. At the same time, excessively broad moderation policies may restrict patients' accounts of genuine experiences or limit discussions concerning scientific uncertainty [1, 3]. Regulatory and moderation frameworks should therefore distinguish between misleading therapeutic claims and patients' critical accounts of their experiences [1, 3]. From a research perspective, clearly defined content categories, transparent appeals procedures, and independent evaluations of implemented measures are needed [1, 3]. The present review did not assess the effectiveness of specific platform regulations because the available evidence did not permit reliable comparisons of their effects on patient health outcomes.

Scientific transparency also involves communicating uncertainty [1, 2]. Professional educational materials should avoid promising universally effective treatments or presenting the findings of a single study as definitive evidence [1, 2]. Patients with chronic dermatological conditions require information about potential benefits, treatment limitations, the expected time to clinical improvement, and the need for individualized management [1, 2]. Short-form digital content does not always allow all these aspects to be adequately explained [1, 2]. One potential solution is a layered information approach, consisting of a concise introductory message, a link to a more detailed explanation, and guidance on situations requiring medical consultation [1, 2]. However, the effectiveness of this information structure should be evaluated empirically rather than assumed on the basis of intuition [1, 2].

Incorporating an ethical perspective into the assessment of misinformation is particularly important when patient photographs and treatment outcomes are presented online [1, 2]. Before-and-after images may be selectively chosen, captured under different lighting conditions, or used to illustrate outcomes that are not representative of the average patient [1, 2]. Although such practices do not necessarily indicate an intention to mislead, they limit the conclusions that can be drawn regarding treatment effectiveness [1, 2]. Responsible communication should disclose relevant conditions affecting image comparisons and should not substitute visual examples for clinical evidence [1, 2]. Further research is needed to determine how these presentations influence users' expectations and treatment decisions [1, 2].

Table 1. Selected Primary Studies and Their Relevance to the Review

Study	Study Design / Material	Key Finding	Main Limitation
Yousaf et al., 2020	Cross-sectional survey; 130 patients with acne	45% used online sources for treatment advice	Self-reported, cross-sectional data
Kayiran et al., 2021	Questionnaire-based study; 1,609 patients	76% did not discuss online information with their physicians	Underlying reasons for this behavior were not established
Zheng et al., 2021	Content analysis; 100 TikTok videos	Low overall information quality	Limited to a single platform and sample
Qi et al., 2016	Content analysis; 47 YouTube videos	21% of videos were classified as misleading	Differences in content coding criteria
Mueller et al., 2019	Content analysis; 100 YouTube videos	52% of videos were classified as misleading	Patient treatment decisions were not assessed
Lin et al., 2024	Analysis of photoprotection-related videos	16.6% were created by board-certified dermatologists	Clinical outcomes were not assessed
Marcon et al., 2026	Content analysis; 971 TikTok videos	86.6% promoted photoprotection	Popular videos were analyzed rather than the entire platform
Roozenbeek et al., 2022	Experimental studies on manipulation techniques	Improved recognition of manipulative techniques	The studies did not involve dermatology patients

Summary of selected primary studies on dermatological information in social media, highlighting key findings and methodological limitations.

4. Discussion

4.1. Three Levels of Evidence and the Challenge of Establishing Causality

The most important finding of this synthesis is the need to distinguish between content quality, patient behavior, and objective clinical outcomes [5, 6]. The first level of evidence involves analyzing online materials and assessing their consistency with established medical knowledge [5, 6]. The second concerns exposure to online information and users' self-reported decisions [5, 6]. The third requires the measurement of health outcomes, such as disease severity, adverse effects, treatment discontinuation, or diagnostic delays [5, 6]. Studies addressing one level of evidence cannot automatically be considered evidence supporting conclusions at subsequent levels [5, 6].

For example, identifying a high proportion of inaccurate or incomplete posts within a particular sample does not necessarily mean that most patients receive misleading medical advice [5, 10]. Algorithms personalize content exposure, while users differ in their information-seeking behaviors [5, 10]. Even after encountering inaccurate information, individuals may ignore it, consult a physician, or verify it using alternative sources [5, 10]. Therefore, risk assessment should account for the mediating mechanisms of trust, information comprehension, and decision-making [5, 10].

Studies involving patients with acne have documented frequent reliance on online treatment advice and the adoption of practices that are not fully consistent with clinical guidelines [6, 7]. However, the proportion of these behaviors that ultimately lead to worsening disease outcomes remains unknown [6, 7]. The absence of evidence does not imply the absence of risk; rather, it requires caution when making quantitative claims about the extent of potential harm [6, 7]. This distinction is essential for maintaining the scientific rigor and credibility of a medical review [6, 7].

4.2. Discrepancies Between Platforms and Studies

Apparently conflicting findings regarding the quality of psoriasis-related content can be partially explained by differences in video selection, classification methods, and the timing of the analyses [10, 11]. The scientific value of these studies lies not in their ability to establish a single universal prevalence of misinformation, but rather in identifying recurring weaknesses in online content and limitations of the assessment methods employed [10, 11]. Similarly, studies on photoprotection have demonstrated both the predominance of positive messages and disproportionately high engagement with a relatively small proportion of critical content [10, 11]. Both findings may be valid, as they reflect different dimensions of the same digital information environment [10, 11].

Differences may also arise from platform-specific content formats [5, 17]. Short-form videos may be effective in communicating a single, straightforward message but insufficient for explaining a comprehensive diagnostic algorithm [5, 17]. Longer videos may provide more contextual information, although greater length does not necessarily guarantee scientific accuracy [5, 17]. Therefore, information quality assessment instruments should be adapted to the intended purpose of the content [5, 17]. An instrument designed to evaluate the completeness of treatment-related information should not automatically be used to classify a patient's personal account as inaccurate [5, 17].

Temporal variability represents another important methodological challenge [5, 10]. An analysis conducted during a single week may reflect a temporary trend, an advertising campaign, or changes in platform algorithms [5, 10]. Longitudinal studies employing consistent search queries and assessment criteria would help distinguish persistent patterns of misinformation from short-lived phenomena [5, 10]. Furthermore, researchers should systematically document the language, geographical location, and degree of personalization of search results [5, 10].

4.3. Clinical Implications for Dermatologists

From a clinical practice perspective, the findings support incorporating questions about sources of health information into routine medical history-taking, particularly among patients with acne and chronic dermatoses [6, 7]. Dermatologists may ask about newly introduced products, self-initiated dosage adjustments, dietary modifications, and concerns arising from online content [6, 7]. Such questions should not imply that the patient has acted inappropriately. Rather, their purpose is to understand the patient's decision-making process and identify potential drug interactions, skin irritation, or deviations from the agreed treatment plan [6, 7].

Patients who seek advice through social media may simultaneously maintain a high level of trust in their physicians [7, 9]. Findings from questionnaire-based studies indicate that these attitudes are not mutually exclusive [7, 9]. Therefore, communication strategies based on a confrontation between competing sources of authority should be avoided [7, 9]. A more constructive approach may involve explaining why particular treatments require individualization and helping patients distinguish evidence derived from clinical studies from anecdotal reports of individual experiences [7, 9].

Regarding photoprotection, it is important not only to correct inaccurate claims but also to provide practical and comprehensive information on the appropriate use of sun-protective products [14, 15]. Content analyses demonstrate that positive attitudes toward sunscreen do not necessarily guarantee adequate educational quality [14, 15]. Dermatologists may therefore focus on developing educational materials that address specific patient questions while considering different skin phototypes and the needs of underrepresented populations [14, 15].

These recommendations represent practical implications derived from the synthesis of available research rather than formal clinical guidelines supported by randomized controlled trials specifically addressing dermatological misinformation [1, 2]. Current evidence is insufficient to attribute a specific reduction in complications or improvement in treatment effectiveness to any particular educational strategy [1, 2]. Demonstrating such effects would require dedicated clinical studies [1, 2].

4.4. Social and Ethical Implications

Dermatological misinformation represents not only a clinical challenge but also a broader social issue [1, 3]. Content addressing skin appearance may combine medical information with aesthetic standards, promises of rapid improvement, and product promotion [1, 3]. For some users, distinguishing between educational content and advertising may be difficult [1, 3]. Transparency regarding financial interests, disclosure of commercial collaborations, and clear differentiation between factual information and persuasive messaging should therefore be essential components of responsible health communication [1, 3].

Increasing the volume of physician-generated content alone cannot be assumed to provide a sufficient solution [1, 2]. Even professionally produced educational materials may remain difficult to understand or fail to engage audiences if they do not address their specific questions and concerns [1, 2]. Conversely, patients' personal accounts may provide valuable psychosocial support. The primary objective should therefore be to create an information environment in which users can recognize the purpose of the content they encounter, whether it is intended as education, personal opinion, individual experience, or advertising [1, 2].

An Interdisciplinary perspective Is particularly Important when designing Interventions to counteract misinformation [3, 19]. Research in health communication, cognitive psychology, technology ethics, and dermatology should be integrated into studies that assess actual patient behavior [3, 19]. Reach and engagement metrics alone are insufficient to determine the success of a public health campaign. Equally important outcomes include information comprehension, the appropriateness of health-related decisions, and user safety [3, 19].

4.5. Limitations of the Review and the Available Literature

The primary limitation of the present review is its narrative synthesis approach and the absence of a completed, fully documented screening process covering all records retrieved from multiple databases. This may have resulted in the omission of studies less prominently indexed in PubMed, including publications from the social sciences.

The included primary studies are characterized by considerable heterogeneity in their definitions of misinformation, assessment instruments, and sampling strategies [5, 10]. Content analyses typically examine a limited number of posts or videos, and their findings are sensitive to the timing and methodology of the search [5, 10]. Patient-based studies are frequently cross-sectional and rely on self-reported data, making them susceptible to recall and selection bias [5, 10]. Furthermore, many studies are conducted at single centers or within specific demographic populations, limiting the generalizability of their findings [5, 10].

Another important limitation is the lack of consistent clinical endpoints across studies [6, 7]. The frequency of exposure to online information, self-reported trust, and independent use of a particular product are not equivalent to objectively documented deterioration in health outcomes [6, 7]. Consequently, no quantitative synthesis of clinical outcomes was performed, and definitive claims regarding the incidence of misinformation-related harm were avoided [6, 7]. Where direct prospective evidence was unavailable, potential risks were presented as clinically plausible hypotheses rather than established causal relationships [6, 7].

4.6. Directions for Future Research

Priority should be given to longitudinal studies linking exposure to specific categories of online content with subsequent patient decisions and objective treatment outcomes. In acne vulgaris, relevant outcomes could include self-initiated treatment modifications, adherence to prescribed therapies, disease severity, and adverse effects. In photoprotection, research should focus on actual sun-protective behaviors rather than relying exclusively on self-reported practices or knowledge test scores. Such study designs would help distinguish the influence of social media from other determinants of health.

Standardization of misinformation definitions and content assessment criteria is also needed. Researchers should systematically document search strategies, search dates, language, content selection methods, and the qualifications of evaluators. Furthermore, studies should distinguish between factually inaccurate information, incomplete content, promotional materials, and personal accounts. This approach would facilitate comparisons across studies while avoiding the inappropriate combination of fundamentally different content categories.

Future studies should compare standard patient education, short-form educational materials developed by dermatologists, warning messages, and psychological inoculation techniques. Outcome measures should include not only assessments of information credibility but also treatment decisions and patient safety. Particular attention should be given to adolescents, individuals with lower levels of health literacy, and populations that have been underrepresented in existing educational materials.

5. Conclusions

Available evidence indicates that social media platforms represent an important source of information about dermatological conditions, while the quality of published content varies considerably [1, 5]. Studies examining acne, psoriasis, and photoprotection have identified incomplete or misleading materials; however, these findings do not justify characterizing the entire digital information environment as uniformly harmful [1, 5].

Questionnaire-based studies confirm that patients seek health advice online and sometimes modify their treatment-related behaviors based on the information they encounter [6, 7]. Nevertheless, current evidence remains insufficient to reliably determine the incidence of clinical harm directly attributable to dermatological misinformation [6, 7]. Key priorities include improving health literacy, strengthening physician–patient communication, and conducting prospective and interventional studies that assess actual health outcomes [6, 7].

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REFERENCES

1. Barrutia, L., Vega-Gutiérrez, J., & Santamarina-Albertos, A. (2022). Benefits, drawbacks, and challenges of social media use in dermatology: A systematic review. *Journal of Dermatological Treatment*. <https://doi.org/10.1080/09546634.2022.2069661>
2. Wojtara, M. S. (2023). Use of social media for patient education in dermatology: Narrative review. *JMIR Dermatology*, 6, e42609. <https://doi.org/10.2196/42609>
3. Suarez-Lledo, V., & Alvarez-Galvez, J. (2021). Prevalence of health misinformation on social media: Systematic review. *Journal of Medical Internet Research*, 23(1), e17187. <https://doi.org/10.2196/17187>
4. Iglesias-Puzas, Á., Conde-Taboada, A., Aranegui-Arteaga, B., & López-Bran, E. (2021). "Fake news" in dermatology. Results from an observational, cross-sectional study. *International journal of dermatology*, 60(3), 358–362. <https://doi.org/10.1111/ijd.15254>
5. Zheng, D. X., Ning, A. Y., Levoska, M. A., Xiang, L., Wong, C., & Scott, J. F. (2021). Acne and social media: A cross-sectional study of content quality on TikTok. *Pediatric Dermatology*, 38(1), 336–338. <https://doi.org/10.1111/pde.14471>
6. Yousaf, A., Hagen, R., Delaney, E., Davis, S., & Zinn, Z. (2020). The influence of social media on acne treatment: A cross-sectional survey. *Pediatric Dermatology*, 37(2), 301–304. <https://doi.org/10.1111/pde.14091>
7. Kayıran, M. A., Karadağ, A. S., Alyamaç, G., et al. (2021). Social media use in patients with acne vulgaris: What do patients expect from social media? *Journal of Cosmetic Dermatology*. <https://doi.org/10.1111/jocd.14272>
8. Ünal BÜ, Demirbaş A, Erdoğan BG. (2024). *Social media use AS a source of information by acne vulgaris patients. J Cosmet Dermatol*. 23: 3312-3318. <https://doi.org/10.1111/jocd.16477>
9. Bal, Z. I., Karaosmanoglu, N., Temel, B., & Orenay, O. M. (2025). Trust in Dermatologists Versus Social Media Influencers Among Acne Patients. *Cureus*, 17(5), e83930. <https://doi.org/10.7759/cureus.83930>
10. Qi, J., Trang, T., Doong, J., Kang, S., & Chien, A. L. (2016). Misinformation is prevalent in psoriasis-related YouTube videos. *Dermatology Online Journal*, 22(11), 13030/qt7qc9z2m5.
11. Mueller, S. M., Jungo, P., Cajacob, L., Schwegler, S., Itin, P., & Brandt, O. (2019). The absence of evidence is evidence of non-sense: Cross-sectional study on the quality of psoriasis-related videos on YouTube and their reception by health seekers. *Journal of Medical Internet Research*, 21(1), e11935. <https://doi.org/10.2196/11935>
12. Gorrepati, P. L., & Smith, G. P. (2022). Evaluating social media as a source of patient information regarding psoriasis treatments using the DISCERN instrument. *Journal of Dermatological Treatment*, 33(5), 2685–2686. <https://doi.org/10.1080/09546634.2022.2037497>
13. Khan, S., Reddy, R., Maynard, N., Zagana-Prizio, C., Mehta, M., Yee, D., Khan, S., & Armstrong, A. W. (2024). Tips, trends, and truths: A study of psoriasis treatment content on TikTok. *Journal of Drugs in Dermatology*, 23(2). <https://doi.org/10.36849/JDD.7050>
14. Roland-McGowan, J., Diehl, K., Tobey, T., Shafer, A., Clement, P., Wisco, O. J., Ortega-Loayza, A. G., & Leachman, S. (2025). Perception, Quality, and Accuracy of Sunscreen Content on TikTok: SkinMedia Cross-Sectional Content Analysis. *JMIR dermatology*, 8, e70010. <https://doi.org/10.2196/70010>
15. Marcon, A., et al. (2026). Sunscreen is overwhelmingly promoted on TikTok, but content with misinformation exhibits proportionally high levels of audience interaction. *PLOS Digital Health*. <https://doi.org/10.1371/journal.pdig.0001440>
16. Lin, R. R., Pulumati, A., & Woolery-Lloyd, H. (2024). DermTok: Who's Talking Sun? A Cross-Sectional Analysis of Sun Protection Content on TikTok. *Journal of drugs in dermatology : JDD*, 23(7), 571–574. <https://doi.org/10.36849/JDD.8179>
17. Campbell, J., Williams, K., & Woolery-Lloyd, H. (2023). DermTok: How TikTok Is Changing the Landscape of Dermatology Patient Education. *Journal of drugs in dermatology : JDD*, 22(3), 302–304. <https://doi.org/10.36849/JDD.6676>
18. Ünal, S., & Demirel Ögüt, N. (2025). Dermatologists' Way of Informative Content About Dermatology and Cosmetology on Social Media. *Journal of cosmetic dermatology*, 24(7), e70148. <https://doi.org/10.1111/jocd.70148>
19. Roozenbeek, J., van der Linden, S., Goldberg, B., Rathje, S., & Lewandowsky, S. (2022). Psychological inoculation improves resilience against misinformation on social media. *Science Advances*, 8(34), eabo6254. <https://doi.org/10.1126/sciadv.abo6254>