

# Characteristics and Medical Accuracy of Online Discussions of Retinal Conditions on a Social Media Platform

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## Abstract

**Purpose:** To assess the content and medical accuracy of retina-related patient discussions on Reddit, an anonymous social media platform, to better understand the main concerns and reliability of a highly accessible resource. **Methods:** A cross-sectional analysis was performed of the top 20 posts and top 3 comments from 2011 to 2022 on the Reddit subforums r/Optometry and r/EyeTriage containing the following keywords: “retinal detachment”, “macular edema”, “macular degeneration”, and “diabetic retinopathy”. **Results:** This study assessed 407 posts and comments. Most users who posted were current patients (n = 71 [60.2%]). Most commenters did not specify their identity (n = 172 [59.5%]). A portion of respondents identified as optometrists (n = 51 [17.6%]), and few identified as ophthalmologists (n = 11 [3.8%]). Many statements were medically inaccurate (n = 31 [40.8%]), with pathophysiology comprising the most commonly misunderstood topic (n = 15 [48.4%]). **Conclusions:** Given the prevalence of inaccurate information and the lack of credibility among Reddit posters, patients should take caution in using these sites for medical guidance regarding retinal conditions.

## Keywords

social media, Reddit, patient education, retina

## Introduction

Social media has emerged as a source of information for individuals across the world. Research has shown that patients use social media to obtain health information, with varying levels of accuracy in shared content.<sup>1</sup> Among these platforms, Reddit is a prominent website where users can post and comment anonymously on a diverse range of topics, including medical discussions. This anonymity allows users to candidly share experiences and seek advice without the constraints of personal disclosure. Unlike other social media sites, Reddit supports a variety of content type, including text, images, videos, and links, which allows users to engage anonymously in numerous ways, something not offered by other platforms such as Facebook, Instagram, or YouTube.

As of June 2021 a reported 430 million people actively used Reddit, making it a highly popular social media platform.<sup>2</sup> Despite its popularity, Reddit lacks regulation by medical professionals, leaving the accuracy of comments and posts unverified.

The lack of accountability and the prevalence of misinformation on the internet raise concerns about the reliability of such resources and may be detrimental to patients seeking medical information and advice online.<sup>3–5</sup> Research assessing online discussions on oculoplastic surgery showed that 31% (176/569) of analyzed statements expressed medically inaccurate information,

and 68% (126/185) of conversations exhibited a misunderstanding of disease pathophysiology.<sup>5</sup> Although most statements were accurate, a considerable portion were not, which may be detrimental to patient understanding and expectations. Likewise, imprecise information has been noted across various social media websites in other specialties, including dermatology (44.7% [172/385])<sup>6</sup> and otolaryngology (46.8% [59/126]).<sup>7</sup>

Online discussions can inform health-related behavioral prediction models because they reflect the public’s perception of health issues and are comparable to national survey data regarding medical literacy and knowledge ( $p = 0.62$ ;  $P < .01$ ).<sup>8</sup> Reddit has previously been identified as a common resource for patients seeking medical advice.<sup>9</sup> As leading causes of blindness, retinal conditions are commonly discussed on Reddit; however, these discussions have not been evaluated in the current literature.<sup>10,11</sup> Thus, it is important to assess and characterize online discussions

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of these topics to better understand the public's perception of these conditions.

In the current study, we analyzed the content and medical accuracy of discussions about retinal conditions on Reddit to evaluate the reliability of a highly accessible resource and to gain insight into primary topics of discussion. Identifying common patient concerns may improve comprehensive understanding of the platform's utility and help physicians anticipate clinical queries. These findings may not only guide patients to use social media more effectively but also inform healthcare professionals about the patient experience in the digital age.

## Methods

The methodology of this study was based on the protocol described by Schmuter et al.<sup>5</sup> This cross-sectional study evaluated 2 Reddit forums (subreddits). To determine which subreddits to analyze, a search of the following key terms was conducted: "retinal detachment", "macular edema", "macular degeneration", and "diabetic retinopathy". The 2 subreddits that appeared the most often were reddit.com/r/Optometry and reddit.com/r/EyeTriage. Other subreddits that appeared when searching these terms included r/Medicine and r/Diabetes, which focus on discussions outside the scope of this study. Posts were included by searching a key term and sorting the search results within each forum for "Top" posts. The first 20 posts and the top 3 comments from those posts were included in the analyses. The automoderator comment was not included in the analysis. If the keyword yielded fewer than 20 posts or fewer than 3 comments, all posts and/or comments were included in analysis.

Comments and posts were collected from May 2011 to December 2022 for r/Optometry and from January 2019 to December 2022 for r/EyeTriage. When available and clearly stated in the post or comment, the demographics and identity of the poster or commenter were recorded as total counts and percentages. All posts and comments were evaluated for the presence of any number of the following discussion topics: exchanging information, exchanging advice, sharing experience, expressing emotion, emotional support, seeking diagnosis, recovery, prognosis, complications, cost, exploring surgical options, exploring medical options, exploring alternative therapies, comedic, venting, and asking for a physician recommendation. Discussion topics were recorded as total counts.

One in every 5 posts and comments was randomly selected for evaluation of statement accuracy. Statements were included in this assessment if they claimed factual information that fell into 1 of the following categories: pathophysiology, postprocedural complications, indication for procedure, and prognosis. A board-certified vitreoretinal fellow and a fellowship-trained, actively practicing vitreoretinal surgeon evaluated accuracy independently; there were no disagreements between the evaluators. Statements were considered inaccurate if any information in the statement was misrepresented; thus, partly inaccurate statements were recorded as inaccurate. The number of accurate and inaccurate statements was recorded as total counts and

**Table 1.** Demographics.

Demographic	Number (%)
Sex	
Unspecified	354 (87.0)
Female	28 (6.9)
Male	25 (6.1)
Age (y)	
18–29	30 (7.4)
30–39	15 (3.7)
40+	18 (4.4)
Unspecified	344 (84.5)

**Table 2.** Poster and Commenter Identity.

Identity	Number (%)
Poster	
Current patient	71 (60.2)
Unspecified	26 (22.0)
Optometrist	13 (11.0)
Prospective patient	5 (4.2)
Alternative healthcare worker	3 (2.5)
Optician	0
Ophthalmologist	0
Commenter	
Unspecified	172 (59.5)
Optometrist	51 (17.6)
Current patient	32 (11.1)
Alternative healthcare worker	13 (4.5)
Ophthalmologist	11 (3.8)
Original poster	6 (2.1)
Optician	4 (1.4)

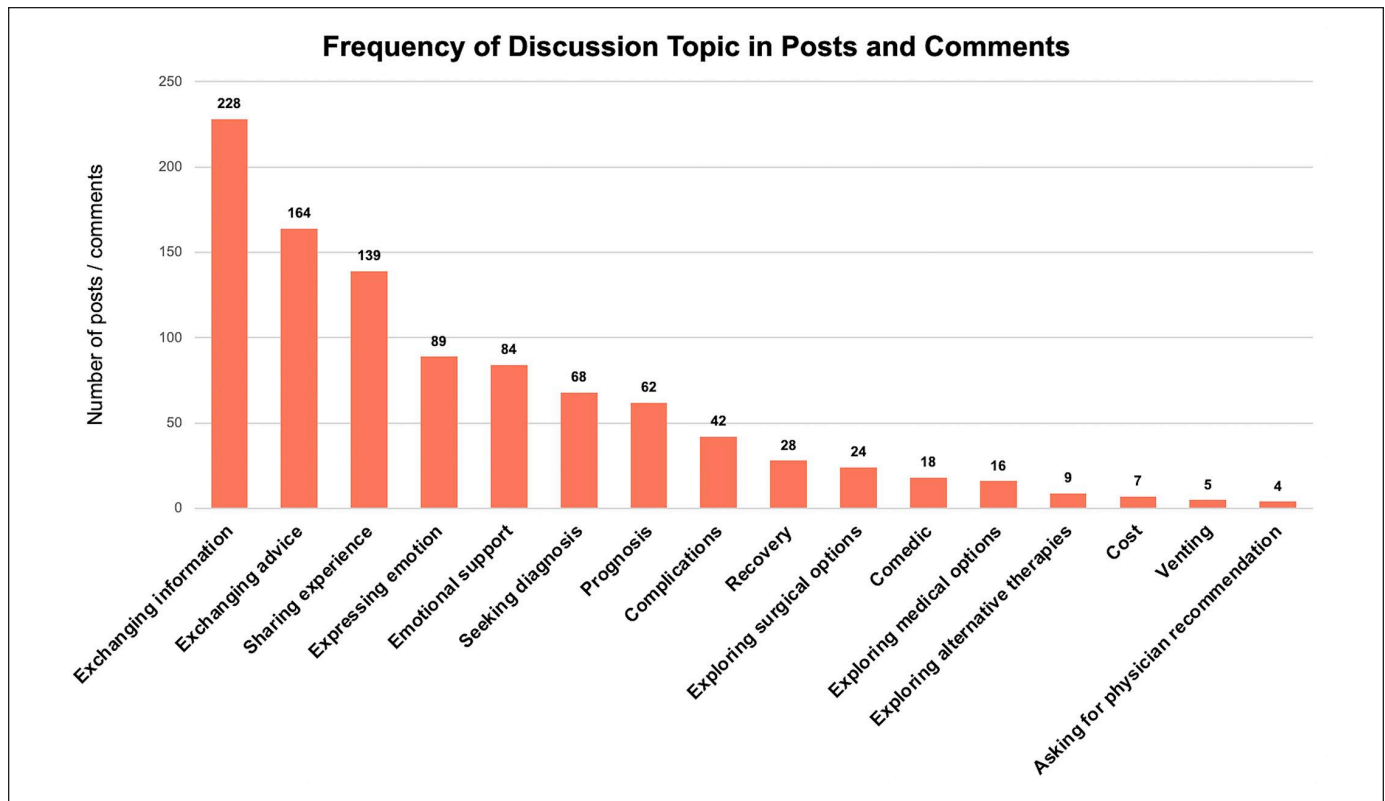
percentages. The content of inaccurate statements, according to the mentioned categories, was recorded as total counts and percentages.

Descriptive statistics were performed on all collected data using Excel software (Microsoft Corp). These data were publicly available and therefore exempt from institutional review board approval.

## Results

The analysis included 118 posts and 289 comments. Of the 407 posters and commenters, 354 (87.0%) did not specify their sex and 344 (84.5%) did not specify their age (Table 1).

Of the 118 users who posted, 71 (60.2%) were current patients, 26 (22.0%) did not specify their identity, 13 (11.0%) were optometrists, 5 (4.2%) were prospective patients, and 3 (2.5%) were alternative healthcare workers. None of the posters identified as ophthalmologists or opticians. Of the 289 users who commented, 172 (59.5%) did not specify their identity, 51 (17.6%) were optometrists, and 11 (3.8%) were ophthalmologists (Table 2).



**Figure 1.** Reddit discussion topics of posts and comments. The 407 posts and comments most often involved exchanging information or advice, sharing experiences, expressing emotion or support, and seeking a diagnosis or prognosis. Posts and comments least often included asking for a physician recommendation, venting, cost, and exploring alternative therapies or medical options. Each post and comment could contain multiple topics.

Of the 407 posts and comments, the purpose of discussion involved exchanging information in 228 (56.0%), exchanging advice in 164 (40.3%), and sharing personal experiences in 139 (34.2%) (Figure 1).

Of the 76 statements assessed for accuracy, 31 (40.8%) were inaccurate, with pathophysiology representing the major component of the misunderstood information (48.4%). Twenty-two statements (28.9%) belonged to posts or comments written by optometrists, ophthalmologists, or alternative healthcare workers, and 54 statements (71.1%) were made by non-healthcare professionals. Of the 22 statements made by healthcare professionals, 8 (36.4%) were inaccurate. Of the 54 statements made by non-healthcare professionals, 20 (37.0%) were inaccurate (Table 3).

## Conclusions

Almost 50% of the world's population uses at least 1 form of social media, and this number is predicted to grow substantially.<sup>12</sup> The use of social media in medicine will likely follow this trend.<sup>13</sup> There are also different methods of spreading medical information, or misinformation, within these platforms. Reddit is a social media platform where users post a wide range of information using accounts that in general do not contain personally identifiable information. Although moderators exist, they are also often unidentifiable.

**Table 3.** Statement Accuracy and Content.

Characteristic	Number (%)
Statement accuracy among healthcare professionals	
Accurate	14 (63.6)
Inaccurate	8 (36.4)
Statement accuracy among non-healthcare professionals	
Accurate	34 (63.0)
Inaccurate	20 (37.0)
Overall statement accuracy	
Accurate	45 (59.2)
Inaccurate	31 (40.8)
Content of inaccurate statements	
Pathophysiology	15 (48.4)
Postprocedural complications	5 (16.1)
Indication for procedure	8 (25.8)
Prognosis	3 (9.7)

The current study assessed the content and medical accuracy of retina-related patient discussions on Reddit. None of the posts and very few comments (3.8%) in the current analysis were made by individuals who identified as ophthalmologists. Content primarily involved the exchange of information (56.0%). Inaccurate statements were common overall (40.8%), and the

most common category of inaccurate statements involved disease pathophysiology (48.4%). The frequency of inaccurate statements remained high (36.4%) among users who identified as healthcare professionals, including optometrists and ophthalmologists. This was seemingly comparable to the rate of inaccuracy in statements made by non-healthcare professionals (37.0%), although this comparison was not analyzed for statistical significance. These results raise concern regarding the reliability of Reddit forums in which healthcare professionals are self-identified and anonymous. Future research should perform comparative statistical analyses to evaluate relationships between variables. This will provide a more robust understanding of the data and help identify significant patterns or trends.

Misinformation on social media is a constant challenge faced by physicians. It is not uncommon for medical advice to be offered on social media sites, regardless of the qualifications of those providing it. For example, a study analyzing dermatology-related accounts on Instagram found that a significant majority (96%) were not run by board-certified dermatologists.<sup>14</sup> Similarly, a study on the r/EyeTriage subforum analyzing general ophthalmology patient inquiries found that ophthalmologists comprised a small percentage (11%) of respondents.<sup>9</sup> Another study showed that 64% of ophthalmology-related Instagram posts were authored by non-ophthalmologists.<sup>15</sup> In the current study of retina-related topics, no posts and only 3.8% of comments were made by individuals who identified as ophthalmologists. Given that many retinal conditions are visually disabling and may involve strict treatment regimens and follow-up, it is imperative that patients receive guidance and recommendations from licensed ophthalmologists. Perhaps one step ophthalmology organizations could take would be to establish official liaisons who are credentialed ophthalmologists who would be in charge of monitoring and responding to social media commentary.

Social media has a powerful role in patient decision-making and can influence patient outcomes.<sup>5,16–19</sup> The spread of medical misinformation is not limited to retinal conditions. In a study analyzing posts in r/PlasticSurgery and r/CosmeticSurgery, 31% were medically inaccurate.<sup>5</sup> A separate study analyzing posts on r/SkinCareAddiction and r/DermatologyQuestions found frequent inaccuracies as well.<sup>20</sup> These findings are consistent with those in the current study, which found an inaccuracy rate higher than 40%. The sources of information shared in the current study were usually from web-based articles and news stories rather than peer-reviewed journal articles. None of these web-based articles were from physician-supported sites such as ASRS.org or EyeWiki.org. Indeed, the number of medical inaccuracies on social media is significant.

Patient comprehension of their diseases is crucial for many reasons. First, greater understanding of their own disease can encourage them to adhere to follow-up care.<sup>21,22</sup> In the current study, the most common category of inaccurate statements involved disease pathophysiology (48.4%). As such, ophthalmologists should strive to educate patients to promote a basic understanding of the mechanisms of their conditions. When

patients are unable to contact a physician directly, they should be encouraged to use reputable sources, such as those from regulatory bodies and medical societies.

Our study is limited by several factors. Although a number of posts were inaccurate, the influence of such inaccuracies on patient perceptions of retinal conditions remains unexplained. Therefore, this number does not necessarily determine the impact of these inaccuracies on public knowledge. Furthermore, given the frequent nondisclosure of identities and the inability to confirm the identities of those disclosed, the precise makeup of respondents is unknown. Moreover, this study was also limited to analyses of English-speaking Reddit users. Further research may seek to evaluate social media's role in the perception of retinal conditions in other patient populations.

With the ever-growing use of social media as a resource for medical discussion, it is critical to understand its content and accuracy. More than 40% of statements in the current study evaluating retina-related discussion topics on a popular social media website were inaccurate. Although many posts were written by patients, only a very small proportion of responses were from ophthalmologists. Individuals should be encouraged to seek medical advice from physicians or reputable sources, such as those regulated by government and health agencies. Retina specialists can use online patient portals to answer patient questions directly, post on social media themselves with identification, and engage in community outreach to promote accurate information.

### Authors' Note

A.N. Gunawardene and S. Suraneni contributed equally to this work.

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A.N. Gunawardene and S. Suraneni had full access to all data in the study and take responsibility for the integrity of the data and accuracy of the data analysis.

### Ethical Approval

The data in this study were publicly available and therefore exempt from institutional review board approval.

### Statement of Informed Consent

Informed consent was waived for the present study.

### Declaration of Competing Interests

The author(s) declared the following potential conflicts of interest with respect to the research, authorship, and/or publication of the article. Dr. Sridhar is a consultant to Alcon, Alimera Science, Apellis, DORC, EyePoint, Genentech, Ocuterra, Regeneron, and Samsara. None of the other authors declared potential conflicts of interest with respect to the research, authorship, and/or publication of the article.

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## References

1. Reidy C, Klonoff DC, Barnard-Kelly KD. Supporting good intentions with good evidence: how to increase the benefits of diabetes social media. *J Diabetes Sci Technol*. 2019;13(5):974-978. doi:10.1177/1932296819850187
2. Mineroff J, Kurtti A, Jagdeo J. Skin of color sun protection: Reddit analysis reveals perceptions, preferences, unmet needs, and knowledge gaps. *J Drugs Dermatol*. 2023;22(7):673-677. doi:10.36849/JDD.7233
3. Naeem SB, Bhatti R, Khan A. An exploration of how fake news is taking over social media and putting public health at risk. *Health Info Libr J*. 2021;38(2):143-149. doi:10.1111/hir.12320
4. Ahmed S, Rasul ME. Social media news use and COVID-19 misinformation engagement: survey study. *J Med Internet Res*. 2022;24(9):e38944. doi:10.2196/38944
5. Schmuter G, North VS, Kazim M, Tran AQ. Medical accuracy of patient discussions in oculoplastic surgery on social media. *Ophthalmic Plast Reconstr Surg*. 2023;39(2):132-135. doi:10.1097/IOP.0000000000002257
6. Iglesias-Puzas A, Conde-Taboada A, Aranegui-Arteaga B, Lopez-Bran E. "Fake news" in dermatology. Results from an observational, cross-sectional study. *Int J Dermatol*. 2021;60(3):358-362. doi:10.1111/ijd.15254
7. Itamura K, Wu A, Illing E, Ting J, Higgins T. YouTube videos demonstrating the nasopharyngeal swab technique for SARS-CoV-2 specimen collection: content analysis. *JMIR Public Health Surveill*. 2021;7(1):e24220. doi:10.2196/24220
8. Zhang H, Wheldon C, Dunn AG, et al. Mining Twitter to assess the determinants of health behavior toward human papillomavirus vaccination in the United States. *J Am Med Inform Assoc*. 2020;27(2):225-235. doi:10.1093/jamia/ocz191
9. Mahjoub H, Prabhu AV, Sikder S. What are ophthalmology patients asking online? An analysis of the Eye Triage subreddit. *Clin Ophthalmol*. 2020;14:3575-3582. doi:10.2147/OPTH.S279607
10. Rosenblatt TR, Vail D, Saroj N, Boucher N, Moshfeghi DM, Moshfeghi AA. Increasing incidence and prevalence of common retinal diseases in retina practices across the United States. *Ophthalmic Surg Lasers Imaging Retina*. 2021;52(1):29-36. doi:10.3928/23258160-20201223-06
11. Rein DB, Wittenborn JS, Burke-Conte Z, et al. Prevalence of age-related macular degeneration in the US in 2019. *JAMA Ophthalmol*. 2022;140(12):1202-1208. doi:10.1001/jamaophthalmol.2022.4401
12. Ortiz-Ospina E. The rise of social media. 2019. Accessed January 10, 2023. <https://ourworldindata.org/rise-of-social-media>.
13. Carley S, Beardsell I, May N, et al. Social-media-enabled learning in emergency medicine: a case study of the growth, engagement and impact of a free open access medical education blog. *Postgrad Med J*. 2018;94(1108):92-96. doi:10.1136/postgrad-medj-2017-135104
14. Ranpariya V, Chu B, Fathy R, Lipoff JB. Dermatology without dermatologists? Analyzing Instagram influencers with dermatology-related hashtags. *J Am Acad Dermatol*. 2020;83(6):1840-1842. doi:10.1016/j.jaad.2020.05.039
15. Huang AS, Abdullah AAN, Chen K, Zhu D. Ophthalmology and social media: an in-depth investigation of ophthalmologic content on Instagram. *Clin Ophthalmol*. 2022;16:685-694. doi:10.2147/OPTH.S353417
16. Montemurro P, Cheema M, Heden P. Patients' and surgeons' perceptions of social media's role in the decision making for primary aesthetic breast augmentation. *Aesthet Surg J*. 2018;38(10):1078-1084. doi:10.1093/asj/sjy021
17. Obeid FM, Mortada H, Alsulaiman M, Faisal AlSwaji G. The use of social media and its influence on undergoing rhinoplasty. *Plast Reconstr Surg Glob Open*. 2022;10(6):e4375. doi:10.1097/GOX.0000000000004375
18. Alshaalan HS, AlTamimi LA, Alshayie RA, Alsuhaibani AH. The impact of social media accounts on periocular cosmetic surgeries. *Saudi J Ophthalmol*. 2021;35(3):251-256. doi:10.4103/SJOPT.SJOPT\_14\_21
19. Marie Reinhart A, Tian Y, Lilly AE. The role of trust in COVID-19 vaccine hesitancy and acceptance among Black and White Americans. *Vaccine*. 2022;40(50):7247-7254. doi:10.1016/j.vaccine.2022.10.067
20. Aboul-Fettouh N, Lee KP, Kash N, Kroger K, Silapunt S. Social media and dermatology during the COVID-19 pandemic: analyzing user-submitted posts seeking dermatologic advice on Reddit. *Cureus*. 2023;15(1):e33720. doi:10.7759/cureus.33720
21. Moinul P, Barbosa J, Qian J, et al. Does patient education improve compliance to routine diabetic retinopathy screening? *J Telemed Telecare*. 2020;26(3):161-173. doi:10.1177/1357633X18804749
22. Giocanti-Auregan A, Garcia-Layana A, Peto T, et al. Drivers of and barriers to adherence to neovascular age-related macular degeneration and diabetic macular edema treatment management plans: a multi-national qualitative study. *Patient Prefer Adherence*. 2022;16:587-604. doi:10.2147/PPA.S347713