



Social Media and Phenol Peeling: An Analysis of Searches Related To Phenol Peeling Via Google Trends

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Abstract

Carbolic acid or phenol is considered a chemical agent that produces intense facial rejuvenation through the denaturation and coagulation of epidermal keratin proteins. However, solutions containing this substance are dangerous and can cause ectropion, keloids and unsightly scars on the face and neck. In addition, systemic absorption is related to hepatorenal and cardiac toxicity. Despite these important considerations about phenol peeling, there has been widespread publicity about the treatment, without any information about how dangerous it can be, on social media. Recently, in Brazil, a patient died during a phenol procedure due to poorly conducted treatment.

Following this, the National Health Surveillance Agency (Anvisa) banned the sale and use of phenol-based products in health or aesthetic procedures in Brazil.

Objective and methods: The aim of this study was to gather information about public interest in phenol peeling through Google Trends analyses before and after this tragic situation.

Results: The results showed that phenol peeling was a procedure of high public interest the day before the patient's death, achieving the highest score on Google Trends. After the patient's death, there was a gradual decrease in public interest in phenol peeling.

Conclusion: It is concluded that there is a strong influence of social media on public opinion and interest in aesthetic procedures.

Keywords: Phenol; Facial rejuvenation; Social media.

Introduction

Carbolic acid or phenol is an aromatic organic compound that has been used in medicine for many decades [1]. Topically, it has an immediate caustic action, with the ability to promote the denaturation and coagulation of epidermal keratin proteins, a phenomenon clinically translated into intense, uniform whitening that is quickly installed [1]. Deep chemical peels performed with phenol, when well indicated and conducted appropriately, produce results incomparable to any other chemical, mechanical or laser exfoliation method¹. However, a toxic dose of phenol absorbed systemically damages both the liver and the kidneys and can depress the respiratory centers and the myocardium [2].

Recently, numerous posts showing phenol peel procedures have been disseminated on social media. Internet users often turn to social media for advice and information on health issues [3]. However, despite being an easy and inexpensive way to obtain information, the substantial presence of misinformation, the widespread financial motivation behind the posts, and the volume of misleading content created by health professionals highlight the critical need for greater scrutiny in verifying the reliability of online health information [4].

In this context, a patient died of cardiorespiratory arrest caused by acute pulmonary edema after inhalation of phenol, during the peeling procedure on June 3, 2024 in Brazil. At that time, phenol peeling was being extremely publicized on social media by

aesthetic professionals, a routine and non-dangerous treatment. Therefore, the objective of this study was to gather information through Google Trends about public interest in phenol peeling before and after the patient's death.

Material and Method

This infodemiology study was collected on August 15, 2024. The search strategy was to determine a term of research, in the Google Trends, that represents the way Google users did their research in the “Google search”, and we found the term "peeling fenol" that means phenol peeling in English. In the sequence, the temporal space was determined as “the last 12 months”, and the geographic space was the country “Brazil”.

A .csv file was obtained from Google Trends and converted in a number file directly on Excel. After this conversion, we could observe the percentage of public interest in phenol peeling along the established time.

Results

The results showed that phenol peeling was a procedure of high public interest at the day before the patient's death, reaching the bigger score in the Google Trends.

It is important to observe that the interest growth was extremely sudden, from 4% to 100% in only one week, which can suggest that some high influence attracted the public's attention.

After the patient's death, the results showed a gradual decrease of public interest in phenol peeling along the two subsequent months.

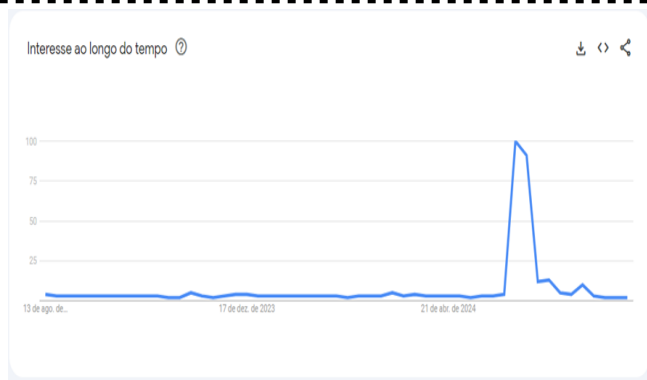


Figure 1: User interest in phenol peeling over time through Google Trends analysis

Discussion

The Internet is increasingly being used in our lives. It is a global network that allows us to obtain different types of information, from topics such as education to entertainment [4]. Along with the use of the Internet, social media sites such as Instagram are especially popular and are used by many people on a daily basis [4].

The search tool of Google Trends is a public database that reports the relative interest and the online research volume based on the “Google Search” consumers information [5]. It is a powerful resource to understand the interest, knowledge or actual conscience of the public about determined terms or topics [5].

According to the International Telecommunication Union (ITU), between 56% and 79% of users obtain health information online in the United States [6]. Makowsky, Jones and Davachi [7] found that 47% of the South Asian population in Canada turns to the Internet for health information [7].

Because of this, the infodemiology is so important in health studies. Infodemiology can be defined as the science of the distribution and determinants of information in an electronic medium, specifically the Internet, or in a population, with the goal of informing

public health and public policy [8]. Potential indicators and metrics of infodemiology include aggregated and automatically analyzed data on the prevalence and patterns of information on websites and social media, metrics on “chat” in discussion groups, blogs and microblogs, and activity on search engines [8].

As can be seen from the analyses in this study, the Internet exerts great power over public interest and even decision-making about health procedures. The sudden growth in interest in phenol peels observed through Google Trends analyses shows the likely influence of social media in this process.

Despite the increased demand for this procedure on the internet, the literature shows that indiscriminate use of phenol peeling can cause serious problems to the patient and their general health [9]. Phenol has a real cardiotoxic potential and for this reason there is an extreme need to perform the peeling procedure under a strict and controlled protocol [9]. Future research investigating the carcinogenic potential of phenol peeling is also desirable to ensure patient safety and adequate information for professionals [9].

It is extremely worrying that healthcare professionals are responsible for publicizing procedures without any information about possible complications related to them [10]. Fake news and misinformation are global problems and may require a concerted international effort to discredit them and promote real news [10]. However, it is also up to each of us, in our daily professional lives, to address the problem by combating the spread of fake news [10].

Conclusion

The results found in this study lead us to believe that there is a strong influence of social media on public

opinion and interest in aesthetic procedures such as phenol peeling, highlighted as a possible reason for the sudden increase in searches on the subject on the internet. Developing strategies to minimize the impact of misleading information and associated financial interests on social networks is essential to avoid new tragic incidents.

References

1. Kadunc BV, Vanti A. Avaliação da toxicidade sistêmica do fenol em peelings faciais [Assessment of systemic toxicity of phenol in facial peelings]. *Surgical & Cosmetic Dermatology*. 2009;1:10-14.
2. Stuzin JM. Phenol peeling and the history of phenol peeling. *Clin Plast Surg*. 1998;25:1-19.
3. Graf I, Gerwing H, Hoefler K, Ehlebracht D, Christ H, Braumann B. Social media and orthodontics: A mixed-methods analysis of orthodontic-related posts on Twitter and Instagram. *Am J Orthod Dentofacial Orthop*. 2020;158:221-228. Doi: 10.1016/j.ajodo. 2019. 08.012.
4. Jucá AM, Santana Jorge O, Moreira YR, Lotto M, Sá Menezes T, Cruvinel T. Uncovering a pseudoscience: an analysis of 'biological dentistry' Instagram posts. *Acta Odontol Scand*. 2024;83:180-189. Doi:10.2340/aos.v83.40486
5. Lem M, Kim JK, Pham JT, Tang CJ. Effect of the COVID-19 Pandemic on Global Interest in Plastic Surgery. *JPRAS Open*. 2023;0:0:1-7. Doi: 10.1016/j.jptra.2023.05.002
6. Andreassen HK, Bujnowska-Fedak MM, Chronaki CE, Dumitru RC, Pudule I, Santana S, et al. European citizens' use of E-health services: A study of seven countries. *BMC Public Health*. 2007;7:1-7. Doi: <https://doi.org/10.1186/1471-2458-7-53>
7. Makowsky MJ, Jones CA, Davachi S. Prevalence and Predictors of Health-Related Internet and Digital Device Use in a Sample of South Asian Adults in Edmonton, Alberta, Canada: Results From a 2014 Community-Based Survey. *JMIR Public Health Surveill*. 2021;7:1: e20671. Doi: 10.2196/20671
8. Eysenbach G. Infodemiology and infoveillance: framework for an emerging set of public health informatics methods to analyze search, communication and publication behavior on the Internet. *J Med Internet Res*. 2009;27;11:e11. Doi: 10.2196/jmir.1157.
9. Ciaramicolo NO, Bisson GB, Ferreira Júnior O. Adverse effects associated with the irresponsible use of phenol peeling - Literature review. *Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology*,2024. Doi: <https://doi.org/10.1016/j.oooo.2024.08.018>.
10. Dias da Silva MA, Walmsley AD. Fake news and dental education. *Br Dent J*. 2019;226;6:397-399. Doi: 10.1038/s41415-019-0079-z.