

Reactive X Proactive Searches on Internet After Leprosy Institutional Campaigns in Brazil: A Google Trends Analysis

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Abstract : The "Janeiro Roxo" (Purple January) campaign in Brazil aims to promote awareness of leprosy and its early symptoms. The COVID-19 pandemic has adversely affected institutional campaigns, mostly considering leprosy a neglected disease by the media. Google Trends (GT) is a tool that tracks user searches on Google, providing insights into the popularity of specific search terms. Our prior research has categorized online searches into two types: "Reactive searches," driven by transient campaign-related stimuli, and "Proactive searches," driven by personal interest in early symptoms and self-diagnosis. Using GT we studied: (i) the impact of "Janeiro Roxo" on public interest in leprosy (assessed through reactive searches) and its early symptoms (evaluated through proactive searches) over the past five years; (ii) changes in public interest during and after the COVID-19 pandemic; (iii) patterns in the dynamics of reactive and proactive searches. Methods: We used GT's "Relative Search Volume" (RSV) to gauge public interest on a scale from 0 to 100. "HANSENÍASE" (HAN) was a proxy for reactive searches, and "HANSENÍASE SINTOMAS" (leprosy symptoms) (H.SIN) for proactive searches (interest in leprosy or in self-diagnosis). We analyzed 261 weeks of data from 2018 to 2023, using polynomial trend lines to model trends over this period. Analysis of Variance (ANOVA) was used to compare weekly RSV, monthly (MM) and annual means (AM). Results: Over a span of 261 weeks, there was consistently higher Relative Search Volume (RSV) for HAN compared to H.SIN. Both search terms exhibited their highest (MM) in January months during all periods. COVID-19 pandemic: a decline was observed during the pandemic years (2020-2021). There was a 24% decrease in RSV for HAN and a 32.5% decrease for H.SIN. Both HAN and H.SIN regained their pre-pandemic search levels in January 2022-2023. Breakpoints indicated abrupt changes - in the 26th week (February 2019), 55th and 213th weeks (September 2019 and 2022) related to September regional campaigns (interrupted in 2020-2021). Trend lines for HAN exhibited an upward curve between 33rd-45th week (April to June 2019), a pandemic-related downward trend between 120th-136th week (December 2020 to March 2021), and an upward trend between 220th-240th week (November 2022 to March 2023). Conclusion: The "Janeiro Roxo" campaign, along with other media-driven activities, exerts a notable influence on both reactive and proactive searches related to leprosy topics. Reactive searches, driven by campaign stimuli, significantly outnumber proactive searches. Despite the interruption of the campaign due to the pandemic, there was a subsequent resurgence in both types of searches. The recovery observed in reactive and proactive searches post-campaign interruption underscores the effectiveness of such initiatives, particularly at the national level. This suggests that regional campaigns aimed at leprosy awareness can be considered highly successful in stimulating proactive public engagement. The evaluation of internet-based campaign programs proves valuable not only for assessing their impact but also for identifying the needs of vulnerable regions. These programs can play a crucial role in integrating regions and highlighting their needs for assistance services in the context of leprosy awareness.

Keywords : health communication, leprosy, health campaigns, information seeking behavior, Google Trends, reactive searches, proactive searches, leprosy early identification

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