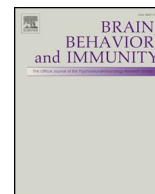




Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Google Trends provides a tool to monitor population concerns and information needs during COVID-19 pandemic



Dear Editor,

Since January 2020, science and an affected world have been observing the rapid spread of the COVID-19 pandemic (Sohrabi et al., 2020). The disease, which is caused by the new virus SARS-CoV-2, was designated by the WHO on February 11 as COVID-19 (Sohrabi et al., 2020). The subject dominates the media and the reality of life to an unprecedented degree.

The scientific publications also reflect the high level of interest and the quick response of the research. By April, well over 5,000 scientific publications on COVID-19 or SARS-CoV-2 had already been published.

Not only the research community, but also the normal population documents a high need for information. Google Trends provides a tool

for documentation and scientific review. For example, Lin et al. have successfully investigated a connection between the search term “wash hands” and the spread rate of SARS-CoV-2 in several countries (Lin et al., 2020).

Further search terms can document a predominantly rationally based need for information and of the population to prepare for the pandemic and to protect themselves. This includes terms such as “wash hands” and “social distancing”. As shown in Fig. 1, a worldwide search revealed a first significant increase in the search term “wash hands”, culminating on March 13. “Social distancing” rises from March 9 to a first peak on March 22 and a second peak on March 30. Furthermore, terms may reflect an increased concern or fear of infection among the population, such as “COVID-19 symptoms”. Searches have increased

various worldwide search terms as well as total and new COVID-19 cases

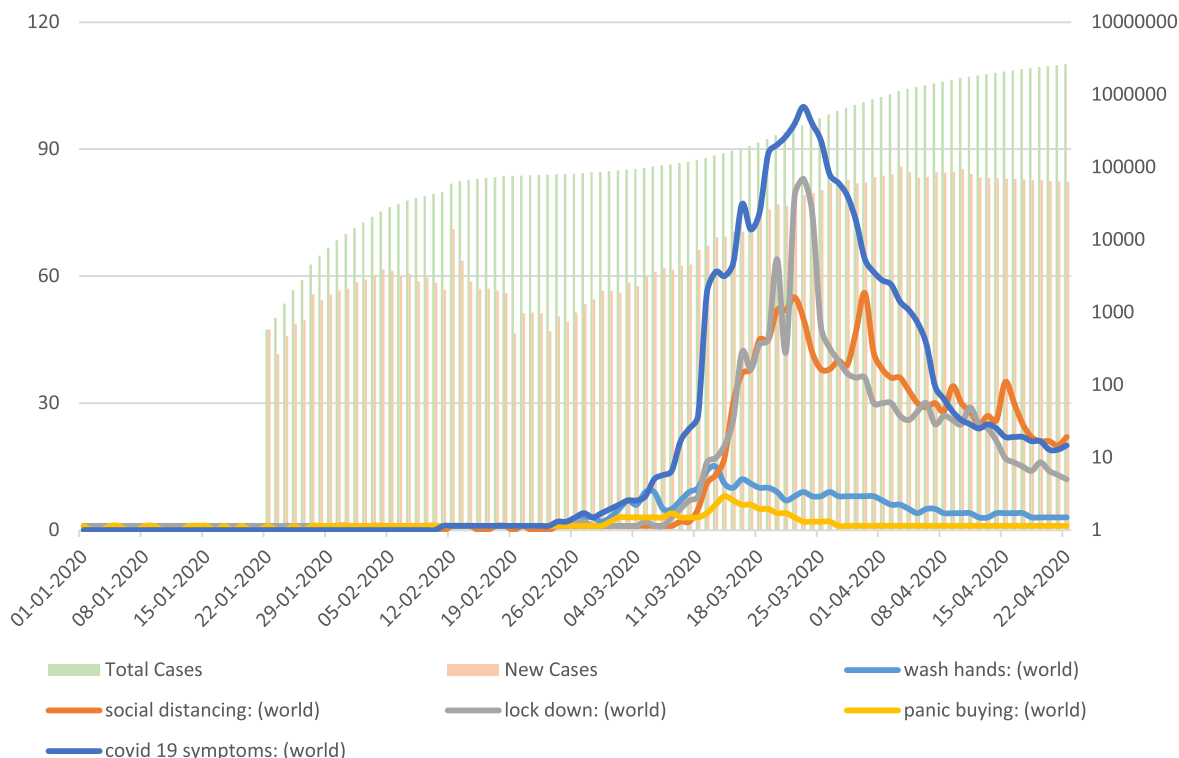


Fig. 1. Display of Google Trends data for various worldwide search terms as well as for total and new COVID-19 cases. *Normalized search data were obtained from Google Trends (100 – high interest; 0 – no or insufficient interest data) for the period from January 01 to April 22, 2020. COVID-19 case data were from Worldometers (worldometers, 2020) [accessed April 24, 2020].

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since February 23, 2020 and peaked on March 23. After the name COVID-19 was introduced in early February, the curve of the search term for symptoms of COVID-19 fits well with the course of the more general term “coronavirus”, which Strzelecki shows in the representation of a second wave of interest (Strzelecki, 2020). “Panic buying” was used as a substitute marker for concerns about supply shortages and generated an early peak on March 15 (Fig. 1).

The assessment of the Pearson correlation coefficient revealed a high correlation between the search term “COVID-19 symptoms” and the search terms “panic buying” ($r = 0.548$, $p < 0.05$), “lock down” ($r = 0.940$, $p < 0.05$), “social distancing” ($r = 0.913$, $p < 0.05$) and “wash hands” ($r = 0.826$, $p < 0.05$).

The worldwide interest or concerns are reflected by all the search terms in this study. One key finding is that Google Trends is able to show the link, which means a correlation between the search terms and their different intensity. Furthermore, Google Trends cannot show whether it is a matter of concern or interest.

According to Strzelecki (2020) the maximum of new cases was within a time span of 10 till 14 days after the highest peaks of the

search terms “COVID-19 symptoms”, “social distancing” and “lock down”.

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