



Correspondence



Increase in interest in sexually transmitted infections on YouTube during the monkeypox outbreak in 2022: A global infodemiology study

Dear Editor,

An increase in the number of monkeypox cases has been reported in non-endemic regions since May 2022, and a new clinical and epidemiological profile of the infection was observed at the beginning of this multi-country outbreak. Large observational studies have shown that the vast majority of cases have occurred in men who have sex with men (MSM), with lesions most commonly appearing in the anogenital region [1–3]. Furthermore, at least 30% of monkeypox patients have HIV, and concurrent sexually transmitted infections (STI), such as syphilis and gonorrhoea, are common [4]. These findings have led people to consider monkeypox an STI.

Using Google Trends™ as a proxy for online health information seeking behavior, we investigated interest in STI on YouTube during the ongoing monkeypox outbreak. The keywords “*monkeypox*” and “*sexually transmitted infection*” were used, and the results were expressed as relative normalized search volume numbers (RNSNs). RNSNs range from 0 to 100 and reflect how many searches are performed for a keyword in relation to the total number of searches on the Internet over time. A value of 100 represents the time point at which the search term reached its peak in popularity. RNSNs were extracted day by day from May 1 to September 1, 2022, and the scores for each term were plotted to create a line graph.

A sudden increase in YouTube searches for monkeypox was observed on May 24 (RNSN 71) after World Health Organization (WHO) officials declared that the monkeypox outbreak is primarily spreading through sex [5]. Since then, there has been a steady rise in online interest in STIs on YouTube, with a peak on July 26 (RNSN 100), three days after WHO [6] declared the current monkeypox outbreak a public health emergency of international concern (RNSN 44). Despite a decrease in Internet searches for information about monkeypox, possibly due to a 21% drop in the global number of cases in epidemiological week 33 (15–21 August) [7], YouTube searches for STIs remained high, with an RNSN of 92 on August 24. In addition, we found the “*monkeypox gay*” as a related search in trends of key topics during the study period (Fig. 1).

To the best of our knowledge, this was the first study to investigate interest in STIs on YouTube during the first months of this new outbreak. YouTube is currently regarded as one of the most important tools for health education, but the information available on this video hosting platform is not always based on the best available evidence. This can lead to misinformation and have a significant impact on people’s health and how we deal with important public health issues. The occurrence of a higher number of monkeypox cases among MSM, as well as the high prevalence of HIV and other STIs among these individuals, have drawn the interest of scientists and health professionals, and the possibility of sexual transmission of the virus has been speculated. Although small series have found monkeypox virus DNA in the seminal fluid of at least

60% of individuals with the disease [8,9], semen samples had mean cycle threshold (Ct) values close to or above 33, indicating that this body fluid has low infectivity despite the presence of monkeypox DNA.

There is strong evidence that close skin-to-skin or skin-to-mouth contact is the primary route of monkeypox transmission [3]. Therefore, the high prevalence of lesions in the anogenital and oral regions among MSM suggests that the majority of lesions may appear at the inoculation site as a result of unprotected intimate contact. The first months of this multi-country outbreak have been characterized by the transmission of the virus in men with high-risk behaviour, but some cases have already been registered in women, individuals without a recent history of sexual intercourse, and in the pediatric population. Monkeypox should not be referred to as a “gay disease”, and there is no evidence available that it can be defined as a STI. The disease’s stigma can exacerbate marginalization and health disparities among gays, bisexuals, and other MSM [10,11]. Implementing devices that monitor YouTube content in real time, preventing the spread of false and discriminatory news about monkeypox, and better strategies for disseminating educational content based on the best available evidence are all necessary.

Ethical approval

Not applicable.

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Author contribution

Paulo Martins-Filho contributed to the study design, data collection, data analysis, and writing.

Research registration number

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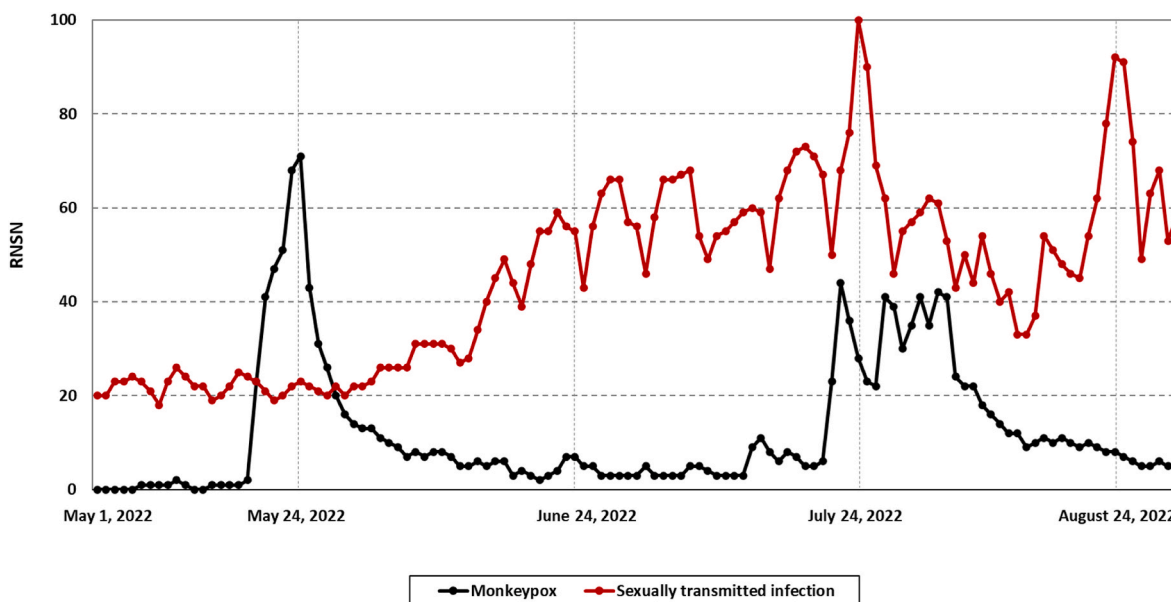


Fig. 1. Daily search activity on YouTube about *monkeypox* and *sexually transmitted infection* from May 1 to September 1, 2022.

Data sharing statement

The data sets used and analyzed during the current study are available from the corresponding author upon reasonable request.

Provenance and peer review

Not commissioned, internally peer-reviewed.

Declaration of competing interest

There is no conflict of interest.

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Paulo Ricardo Martins-Filho*
Investigative Pathology Laboratory, Federal University of Sergipe, Brazil

* Universidade Federal de Sergipe, Hospital Universitário, Laboratório de Patologia Investigativa, Rua Cláudio Batista, s/n. Sanatório, Aracaju, Sergipe, CEP: 49060-100, Brazil.
E-mail address: prmartinsfh@gmail.com.