

1567 Investigating the Effect Of COVID-19 On Internet Searches for Hip, Knee and Shoulder Pain in the UK

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Aim: In response to the COVID-19 pandemic, all non-urgent surgery was suspended, with orthopaedic surgery among the worst affected. We conducted an infodemiological study to explore changes in internet searches for joint pain at a population level since the start of the pandemic.

Method: Bayesian structural time-series methods were employed to evaluate the impact of cancelled orthopaedic operations on Google search interest in Knee, Hip and Shoulder pain in the UK. Data were extracted from Google Trends from January 2016-2021. The *bsts* package was used to construct counterfactual time series, incorporating local linear trend and yearly seasonal components. Causal effects were determined using the *CausalImpact* package, with 95% CIs and posterior probabilities calculated. 17 March 2020 was used for pre-/post-period cut-off as non-urgent surgery was suspended on this date. P value < 0.05 was significant. R version 4.0.3 was used for analyses.

Results: Knee pain was the most popular search term, followed by Shoulder pain then Hip pain. The onset of the COVID-19 pandemic was associated with a significant increase in searches for Knee pain (Relative effect [95% CI] = 14% [-0.85%, 29%], p=0.031). However, there was no significant effect on searches for Hip pain (Relative effect [95% CI] = -1.3% [-15%, 12%], p=0.427) or Shoulder pain (Relative change [95% CI] = 6.5% [-7.9%, 21%], p=0.195).

Conclusions: Our findings suggest a greater impact of COVID-19 on the prevalence of knee pain, compared to hip/shoulder pain. This has implications for planning future orthopaedic surgery delivery and deciding on the priority order for rescheduled operations.