Google Trends to evaluate public web searches of eye symptoms

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INTRODUCTION

The internet has transformed the way that health information is accessed, with an increasing number of individuals seeking health-related information online prior to accessing formal medical advice[1]. Google Trends is a platform that offers useful insights into the relative levels of interest in search terms from public web searches over time[2], and thus provides a good proxy to understand trends in the use of common ophthalmic symptoms searched for by patients when accessing information online.

AIM

To investigate trends in public web searches for common eye symptoms in the United Kingdom by using the Google trends analytics platform.

METHODS

Three key search terms were inputted into Google Trends, namely:

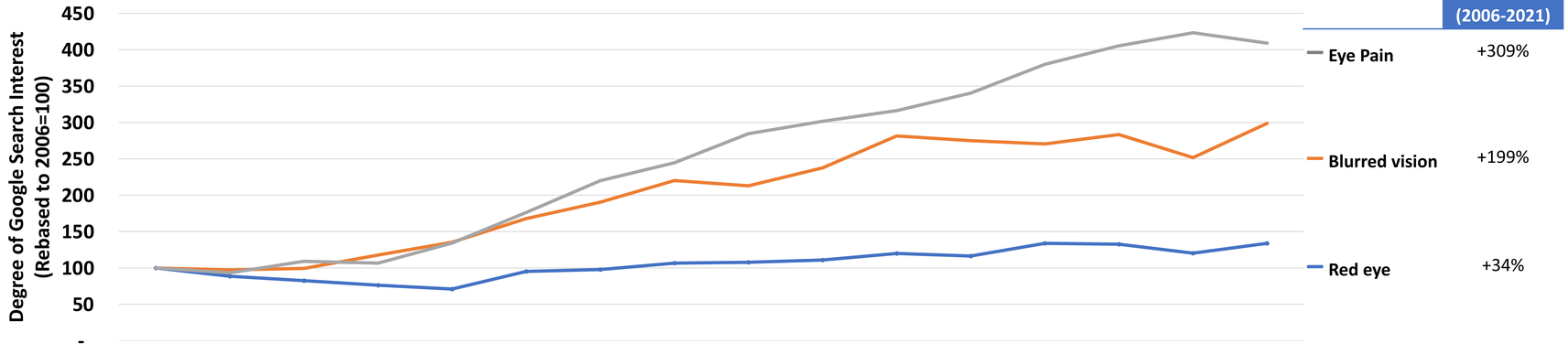
i) red eye, ii) eye pain and; iii) blurred vision

These were chosen for their occurrence across common eye conditions and to reflect searches most likely to be made by patients. A 15-year time-period dating back from 2021 was chosen to enable a long-term comparison of search trends.

RESULTS

Search data for the terms chosen was downloaded from Google Trends in April 2022 from 2006 to 2021. Data for each search term was rebased to 100=2006, to facilitate comparison of search trends across terms. This showed that interest in all three search terms increased between 2006 and 2021. Of these, eye pain increased the most (309%), followed by blurred vision (199%) and red eye (34%).

Change in Google Search Trends in the United Kingdom for common eye symptoms



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Eye pain	100	93	109	107	134	176	220	245	285	302	316	340	380	405	423	409
Blurred vision	100	97	99	118	135	168	190	220	213	238	281	275	271	283	252	299
Red eye	100	89	83	76	71	95	98	107	108	111	120	116	134	133	120	134

DISCUSSION

These results show an increase in search interest across the three eye search terms over the 15-year time period. Rather than an acceleration of trends due to COVID-19, it is notable that these are in fact longer-term, fundamental change in how patients access their healthcare information. It is well known that the Internet is an increasingly-used source of information for health-related material and as of January 2021, there were 4.8 billion internet users worldwide[3]. With more and more individuals seeking information online, it is important that clinicians appreciate that patients are likely to have "Googled" their symptoms prior to their visit and may have formulated a preconceived idea of their possible diagnosis. Nevertheless, it is also possible that the wealth of health information online can act as an invaluable tool to supplement and aid patients to better understand their symptoms and condition[4]. Therefore, it is paramount that the health information available online is of a high-quality however, this is not always the case. A meta-narrative systemic review from 2019 investigating the quality of health information on the internet found quality to be suboptimal and requiring significant improvement[5]. A more recent study[6] assessing online resources related to dry eye disease found low scores for the quality and readability of most websites, further highlighting the need to address the relative lack of quality of health-information available online.

CONCLUSION

The internet is an increasingly critical source of information to patients, demonstrated clearly by the 34-309% increase in interest in searches for common ophthalmic eye complaints. These shifts in patient's behaviours are important and we must ensure that online information is of appropriate quality. To this end, further refinement of existing online content, and development of new, patient friendly material will be invaluable in aligning to changing patient trends.

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