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Letter to the Editor

A Google Trends study on the interest in self-medication during the 2019 novel coronavirus (COVID-19) disease pandemic



The world is scuffling with the novel 2019 coronavirus (COVID-19) pandemic (Lai et al., 2020; Weiss and Leibowitz, 2011; Zu et al., 2020), that is spreading fast, endangering lives of millions of people in many parts of the world (T, 2003). As of 19th June 2020, the total number of coronavirus positive cases reported globally was 8,366,417 with 450,087 deaths and 54,726 patients in serious or critical condition. Although there has been reported 4,563,467 recoveries, some countries like the United States of America, Brazil and Russia are reporting exponential numbers of positive cases on daily basis with Russia reporting 9,972 new positive cases in one day (WHO, 2020).

The current state has complicated the already flimsy healthcare systems globally and more specifically in resource-limited settings, particularly those countries that had made great strides in improving their maternal and child health indicators before the pandemic (Onchonga et al., 2020a, 2020b).

Self-medication which is also known as self-care/self-administration, is a world-wide practise where persons, families and/or communities choose medications to treat health conditions or indications without the opinion of a medical profession (Lei et al., 2018) and it is becoming a significant area of interest in healthcare research as it gives individuals with minor ailments freedom to make independent choices on how to manage their own health and wellbeing without necessarily going to hospital. During the current pandemic, self-medication will greatly ease the burden levied to skilled physicians, pharmacists and other allied frontier healthcare professionals in dealing with minor ailments. It will also create sufficient room for clients who may need urgent and lifesaving care, more so those diagnosed with 2019 coronavirus disease as they may require comprehensive case management due to the virulence nature of COVID-19 and also the pos-

sibility of nosocomial infections in public and private health facilities (Jarvis and Epidemiology Branch, Hospital Infections Program, 1991).

As the world is struggling to contain the 2019 coronavirus disease, millions of people are frantically looking for health related information online. The Google Trends search has become a valuable source of information particularly on the emerging public health topics (Heerfordt and Heerfordt, 2020). Google Trends (trends.google.com) provides evidence on how many 'hits' different words had on a particular day on Google. The interest of a particular word is quantified as relative search volume (RSV) with 100 indicating the highest interest and 0 showing no interest at all. In this study, the aim was to investigate the interest in self-medication/self-care and/or self-administration of medicines during the 2019 coronavirus disease pandemic.

As per the objectives of this study, the following MeSH terms (U.S. National Library of Science, 2020) were retrieved: 'self-medication', 'self-care', and 'self-administration', between 7th January 2020 to 1st June 2020 with the intention of studying whether there was worldwide increased interest in getting online information regarding self-medication during the pandemic.

Figs. 1–3 shows the trends of the web search queries 'self-medication', 'self-care' and/or 'self-administration'. The trends show a relative increase in the number of searches worldwide since the 2019 coronavirus global pandemic was declared, and this would be an indication that there has been an increased interest in the number of people searching for information about self-medication of various ailments during the pandemic. There is need for individuals with minor diseases and infections to get relevant information on self-medication especially for minor ailments during this period of global emergency so that there can be room for serious medical cases that may need admissions and further management in hospitals. This will not only reduce the unnecessary hospital infections, but will create an enabling environment for the already overstretched human resources for health.

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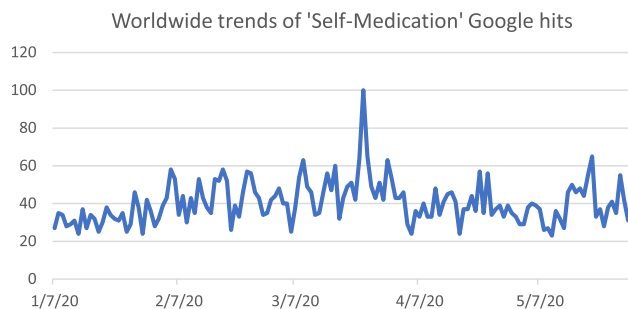


Fig. 1. Google Trend data for web search query for the term 'self-medication'.

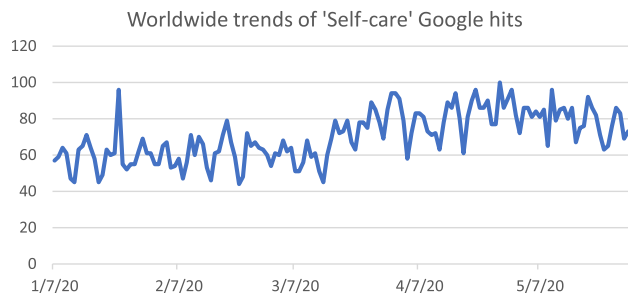


Fig. 2. Google Trend data for web search query for the term 'self-care'.

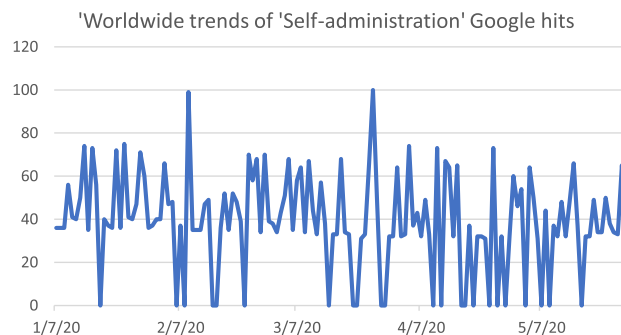


Fig. 3. Google Trend data search query for the MeSH term 'self-administration'.

- Lei, X., Jiang, H., Liu, C., Ferrier, A., Mugavin, J., 2018. Self-medication practice and associated factors among residents in Wuhan, China. *Int. J. Environ. Res. Public Health* 15. <https://doi.org/10.3390/ijerph15010068>.
- Onchonga, D., MoghaddamHosseini, V., Keraka, M., Várnagy, Á., 2020a. Prevalence of fear of childbirth in a sample of gravida women in Kenya. *Sex. Reprod. Healthc.* 24, 100510. <https://doi.org/10.1016/j.srhc.2020.100510>.
- Onchonga, D., Várnagy, Á., Keraka, M., Wainaina, P., 2020b. Midwife-led integrated pre-birth training and its impact on the fear of childbirth. A qualitative interview study. *Sex. Reprod. Healthc.* 25, 100512. <https://doi.org/10.1016/j.srhc.2020.100512>.
- T, K.H., 2003. SARS coronavirus: a new challenge for prevention and therapy. *Am. Soc. Clin. Investig.*
- U.S. National Library of Science, 2020. MeSH Descriptor Data 2020 [WWW Document]. URL <https://meshb.nlm.nih.gov/record/ui?ui=D012648> (accessed 6.1.20).
- Weiss, S.R., Leibowitz, J.L., 2011. Coronavirus pathogenesis. In: *Advances in Virus Research*. Academic Press Inc., pp. 85–164. <https://doi.org/10.1016/B978-0-12-385885-6.00009-2>.
- WHO, 2020. COVID-19 Situation Reports [WWW Document]. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports/> (accessed 6.1.20).
- Zu, Z.Y., Jiang, M. Di, Xu, P.P., Chen, W., Ni, Q.Q., Lu, G.M., Zhang, L.J., 2020. Coronavirus Disease 2019 (COVID-19): A perspective from China. *Radiology* 200490. <https://doi.org/10.1148/radiol.2020200490>.

Authors statement

There was no ethical approval since the data used is freely available online and it is anonymous.

References

- Heerfordt, C., Heerfordt, I.M., 2020. Has there been an increased interest in smoking cessation during the first months of the COVID-19 pandemic? A Google Trends study. *Public Health*. <https://doi.org/10.1016/j.puhe.2020.04.012>.
- Jarvis, W.R., Epidemiology Branch, Hospital Infections Program, 1991. Nosocomial outbreaks: The centers for disease control's hospital infections program experience, 1980–1990. *Am. J. Med.* 91, S101–S106. [https://doi.org/10.1016/0002-9343\(91\)90352-X](https://doi.org/10.1016/0002-9343(91)90352-X).
- Lai, C.-C., Shih, T.-P., Ko, W.-C., Tang, H.-J., Hsueh, P.-R., 2020. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and coronavirus disease-2019 (COVID-19): The epidemic and the challenges. *Int. J. Antimicrob. Agents* 55, 105924. <https://doi.org/10.1016/j.ijantimicag.2020.105924>.

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