THE IMPACT OF THE COVID-19 PANDEMIC LOCKDOWN MEASURES ON THE PRESCRIBING TRENDS AND UTILISATION OF OPIOIDS IN THE ENGLISH PRIMARY CARE SETTING: A SEGMENTED-LINEAR REGRESSION ANALYSIS

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The emergence of the COVID-19 pandemic presented unprecedented challenges for healthcare systems, including patients with chronic pain. The COVID-19 lockdown has resulted in limited access to most of the conventional chronic pain management services. Subsequently, changes in opioid utilisation could be expected (1). Aim: To assess the impact of the first COVID-19 lockdown on opioid utilisation using aggregated-level, community dispensing dataset covering the whole English population. Methods: This repeated cross-sectional study applied a segmented-linear regression analysis to monthly dispensed opioid prescriptions using the Prescription Cost Analysis database (PCA), from March 2019-March 2021. Opioid utilisation was measured using number of items dispensed/1000 inhabitants and Defined Daily Dose (DDD)/1000 inhabitants/day during 12-months pre and post the COVID-19 lockdown introduced in England in March 2020, stratified by strong and weak opioids. Results: There were insignificant changes in the number of items dispensed/1000 inhabitants trend pre-COVID-19 lockdown for total, strong, and weak opioids ($\beta1$=-0.064, $\beta1$=-0.055, $\beta1$=0.009, $p>0.05$, respectively). Immediately post-lockdown, there were small increases in the level of total, strong, and weak opioids ($\beta2$=0.494, $\beta2$=0.448, $\beta2$=0.045) albeit non-significant. There was a non-significant decline in the trend post-lockdown for all opioids' classes. Similarly, a non-significant reduction in the DDD/1000 inhabitants/day baseline trend was observed pre-lockdown for total, strong, and weak opioids ($\beta1$=-0.028, $\beta1$=-0.027, $\beta1$=- 0.001, $p>0.05$, respectively). There were immediate increases in the level post-lockdown ($\beta2$=0.386, $\beta2$=0.360, $\beta2$=0.026, $p>0.05$) for total, strong, and weak opioids respectively. Subsequently, a decline in the trend post-lockdown for all opioids' classes was observed. Discussion/conclusion: Unexpectedly, the study's findings showed an overall stable trend in the utilisation of opioids pre and post COVID-19 in England. The stable trends observed in our study could be due to multiple factors. Firstly, patient level data and information about the specific indication were unavailable in the PCA dataset. This is a limitation as we were unable to examine the trend between the existing and new (incident) patients to obtain more accurate data for opioid utilisation. Moreover, the guidelines and strategies that have been implemented with regard to opioid prescription in the UK (2), to help regulate and minimize the harm from their use in chronic pain management may have had an impact. To our knowledge, this is the first study to estimate and quantify the impact of the COVID-19 pandemic on opioid utilisation using a segmented regression analysis. This was facilitated by the study focusing on opioid prescription over a 25-month period, i.e. 12 months either side of the pandemic, to predict a trend line for opioid prescription. This duration was beneficial as it gave us adequate time to investigate if COVID-19 had affected prescribing volumes. The limitations include lacking patient level data and specific indications for prescribing opioids. Also, over-the-counter codeine products were not included in the study as the datasets we used included only prescription medicines in ambulatory care Our findings support the further monitoring and investigation of patient level data to explore the impact of the pandemic on opioid prescription and to continue promoting the safe and effective use of opioids.