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Effect of COVID-19 lockdown on blood pressure in hypertensive adult patients: A systematic review

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In December 2019, the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) caused a global pandemic with a high number of deaths and infected people worldwide. To contain the diffusion of coronavirus disease 2019 (COVID-19), several Governments have established a variety of control measures, such as the lockdown. As a result, daily activities, dietary habits, and physical activity changed during the COVID-19 lockdown, which could impact the cardiovascular risk profile of populations and, in particular, blood pressure (BP) in hypertensive subjects [1]. This systematic review was conducted to identify, appraise and synthesise the available studies on the impact of lockdown during the COVID-19 pandemic on BP in patients with hypertension.

A literature search was performed in Pubmed/Medline, Web of Science and COVID-19 LOVE up to June 2022 to identify relevant studies. Longitudinal observational studies conducted in hypertensive adult (> 18 years) patients, of both sexes, with information on BP before and after lockdown, and published in English, Spanish or other Romance languages were included. Studies conducted in subjects suffering from increased BP secondary to another pathology or those under antihypertensive drug treatment initiated during the COVID-19 lockdown were excluded. Animal/lab and other experimental studies, reviews, and duplicate studies were also discarded. The selection process was carried out from the title and the abstract first and from the full text then. A qualitative summary was done to present relevant data.

The search retrieved 1683 records, of which five studies met the eligibility criteria and were included in the qualitative syntheses [1–5]. Three studies selected were retrospective [1,3,4] and two prospective [2,5]. The two studies performed in Italy found a significant reduction in systolic and diastolic BP [4,5]. Both samples presented good adherence to treatment during the lockdown. Nevertheless, a study conducted on hypertensive Indian adults observed an increase in BP [1]. Interestingly, this study reported a worsening in diet and physical activity. The other study conducted on the Indian population did not find differences in BP [3], but participants maintained good adherence to medication and physical activity and dietary recommendations.

Finally, the study performed in Maroc did not show a significant increase in systolic or diastolic BP levels, but the percentage of hypertensive subjects with diastolic BP values above 90mmHg increased at two points [2]. A significant increment in salt intake was observed in this group.

This systematic review found five studies that assessed the effect of the lockdown for COVID-19 on systolic and diastolic BP in hypertensive patients and the results are not consistent. Nonetheless, it seems clear that lifestyle plays a critical role in BP values. Further prospective studies would be needed to further elucidate the impact of the lockdowns on BP in adult patients with hypertension.

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