

How does blood pressure measured in community pharmacies compare to readings by general practitioners (GP), at home or over 24 hours? A systematic review and meta-analysis

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Background: Blood pressure (BP) readings are traditionally taken in a clinic setting, with treatment recommendations based on these measurements. The clinical interpretation of BP readings taken in alternative settings, such as community pharmacies is currently unclear. This study aimed to systematically review all literature comparing community pharmacy blood pressure (CPBP) readings with ambulatory blood pressure monitoring (ABPM), home (HBPM) and general practitioner (GP) clinic readings.

Method: A comprehensive search strategy was devised to identify studies comparing CPBP with at least one other measurement modality used for the diagnosis or management of hypertension. Mean systolic CPBP was compared with the other measurement modalities and summarised using random-effects meta-analyses. The primary outcome was to compare CPBP to ABPM readings (the reference standard).

Results: Searches generated 3,815 potentially eligible studies of which eight were eligible and included in the meta-analyses. The mean CPBP-daytime ABPM difference was small (+1.6mmHg [95%CI -1.2 to 4.3] n=319). CPBP was significantly higher than 24hr ABPM (+7.8mmHg [95% CI 1.5 to 14.1] n=429). Comparisons with GP clinic readings were inconclusive with significant heterogeneity between studies. Sensitivity analysis removing low quality studies reduced mean differences and heterogeneity between CPBP and both daytime ABPM and HBPM.

Conclusion: Current evidence around the clinical interpretation of CPBP is inconclusive. However, given the role of community pharmacies in hypertension management (screening and referring patients to their GP) this review suggests that adopting the 135/85mmHg threshold for hypertension would be reasonable and potentially result in a higher sensitivity for detecting patients with truly raised BP in the community.

Disclosure: None declared.