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ABSTRACT

The Effects of Home Blood Pressure Monitoring and Self-Titration on Achieving Blood Pressure Targets

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One-third of U.S. adults over the age of 20 are hypertensive, with an estimated cost of \$47.5 billion in direct medical expenses and increased individual CVD risk (CDC, 2018). Routine office visits afford primary care providers a means of managing hypertension; however, time constraints limit the ability to accurately assess and track BP in most patients (Jung, 2015). The purpose of this project was to determine if implementation of HBPM and an algorithm for self-titration of antihypertensive medications increased the number of participants at guideline recommended BP goal over a 90-day period. The Health Promotion Model provided the theoretical framework for proposed practice change, with implementation guided by the JHNEBP model, and was supported by 11 pieces of evidence obtained through a systematic search of the literature. Retrospective chart audits were conducted for participant BP measurements for two office visits prior to enrollment. Participants were given a validated digital upper arm BP cuff for use at home and an individualized algorithm for self-titration of antihypertensive medications. Data was collected on pre- and post-implementation BP measurements from participants using HBPM and self-titration algorithms over a 2-week period and stratified by HTN stage. Results indicated that twelve of sixteen participants moved from a higher to lower BP stage category from baseline to 90-day follow up. For secondary outcomes, results from pre- and post-intervention measurements were compared using a two-tailed paired *t*-test. A mean reduction 30 mmHg SBP ($M = 157.82$, $M = 127.82$, $p < .001$) and 19.27 mmHg DBP ($M = 89.91$, $M = 70.64$, $p < .056$) was found in the 11 self-titrating patients who completed the 90-day follow up. Results of this EBP project lend support to the incorporation of HBPM and self-titration into usual care practice for management of hypertension in the primary care setting.