

The Effect of a Practice-based Multi-component Intervention That Includes Health Coaching on Medication Adherence and Blood Pressure Control in Rural Primary Care

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Background: Lower adherence to anti-hypertensive medications contributes to sub-optimal patient outcomes, yet there are few successful interventions in rural primary care that target improved adherence. The purpose of this study was to determine whether a multi-component quality improvement intervention that included literacy-sensitive health coaching with motivational interviewing was associated with improved medication adherence and reductions in blood pressure (BP) in patients with a history of uncontrolled hypertension (HTN).

Methods: Adult patients in six rural primary care settings with one or more visits in the last year with a systolic BP > 150 mmHg were recruited. Project faculty facilitated systematic changes in care delivery in local practices. Patients also received monthly phone-based literacy-sensitive health coaching including a focus on medication adherence, and a BP cuff for home monitoring. Data regarding medication adherence (Morisky Medication Adherence Scale-8) and BP were collected at baseline, 6, 12, 18, and 24 months. Linear mixed effects modeling was used to determine the effects of the multi-component intervention on medication adherence and whether changes in medication adherence were associated with changes in systolic and diastolic BP.

Results: There were 477 patients enrolled; the majority were female, black, and reported an annual household income of < \$40,000. At baseline, 39% of the patients had low medication adherence (MMAS-8 score < 6). In linear mixed effects models, the intervention resulted in modest increases in medication adherence [5.75 ± 1.37 at baseline to 5.94 ± 1.33 at 24 months ($p = .04$)]. Corresponding changes in BP were: from $138.6 \pm 21.8/81.6 \pm 12.9$ mmHg at baseline to $132.7 \pm 19.5/76.1 \pm 14.5$ mmHg at 24 months follow-up [mean $0.22-0.25/0.24-0.26$ mmHg per month before and after adjustment for covariates ($p < .001$)]. Changes in medication adherence were significantly associated with reductions in diastolic BP longitudinally ($p = .047$).

Conclusion: A practice-based quality improvement intervention that includes health coaching is associated with improvements in medication adherence and BP, and offers promise as a clinically applicable intervention in rural primary care.

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