

Abstract P304: Persistent Use Of Aktiia 24/7 Blood Pressure Monitor Is Associated With Lower Blood Pressure In Hypertensive Patients

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Abstract

Introduction: Cuffless blood pressure (BP) monitors are a promising innovation for hypertension diagnosis and monitoring. Aktiia (Aktiia 24/7 BP Monitor, Aktiia, Switzerland) is a CE-marked, commercially available BP monitor that passively and continually collects BP waveforms via optical sensors at the wrist. After initial cuff calibration, the app displays BP estimates on a smartphone. No data exist on the impact of persistently showing a person their BP data with this device.

Hypothesis: If people with hypertension persistently use Aktiia and are exposed to their BP data, there will be a change in behavior resulting in measurably lower BP.

Methods: We analyzed the systolic BP (SBP) trends of 838 real-world users (Age 57 ± 11 , 14% female) who consistently used Aktiia for 6 months (375 ± 287 app interactions, 3646 ± 1417 cuffless readings per user, and 9 ± 7 cuff readings per user). Users were grouped by the mean monthly SBP (< 140 and > 140 mmHg) calculated over 6 months. Then, cuff SBP averages were calculated monthly and compared to the SBP average of the first month. A t-test analysis was used to detect the difference in SBP between the first and successive months.

Results: Hypertensive users (SBP > 140 mmHg) saw a reduction in SBP of -3.2 mmHg (CI: -0.70 , -5.59 , $p < 0.02$), beginning at 3 months and sustained through 6 months. For users with SBP < 140 mmHg, the mean SBP remained unchanged (Fig. 1).

Conclusion: Persistent BP monitoring with Aktiia's cuffless device is associated with a significant, sustained reduction in SBP for hypertensive patients at 6 months. Possible explanations include the Hawthorne effect or intensified treatment.

