

## 6.7 percent of U.S. adults cannot use automatic BP devices due to arm size

September 8 2024, by Lori Solomon

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An estimated 6.7 percent of U.S. adults cannot use popular automatic blood pressure devices due to arm circumference, according to a research letter published online Sept. 5 in *Hypertension* to coincide with

the American Heart Association Hypertension 2024 Scientific Sessions, held from Sept. 5 to 8 in Chicago.

Eileen Kaur, from Howard High School in Ellicott City, Maryland, and colleagues evaluated the cuff sizes in 10 popular blood pressure devices from Amazon's Automatic Blood Pressure Category and quantified the coverage of arm circumference ranges among 13,826 adults participating in the National Health and Nutrition Examination Survey (2015 to 2020).

The researchers found that of the 10 evaluated devices, nine offered cuff sizes covering arm circumferences from 22 to 42 cm and one offered sizes from 22 to 40 cm. An estimated 6.7 percent of U.S. adults (corresponding to 17.3 million adults) could not use these devices "as is" due to arm circumferences 42 cm (6.4 percent [16.5 million], including 67.3 percent with hypertension). Black adults (11.8 percent) had a higher proportion not covered by these devices than other racial/[ethnic groups](#) (6.6, 5.2, and 1.8 percent for White, Hispanic, and Asian adults, respectively). A similar proportion of women (6.9 percent) and men (6.6 percent) were not eligible for these devices.

"To increase [equity](#), manufacturers should prioritize the development and affordable sale of blood pressure measuring devices that accommodate arm circumferences greater than 42 centimeters, and [health care professionals](#) should measure patients' arm circumferences to help them select an appropriate cuff size when purchasing a home blood pressure [device](#)," senior author Kunihiro Matsushita, M.D., Ph.D., from the Johns Hopkins Bloomberg School of Public Health in Baltimore, said in a statement.

One author disclosed ties to Fukuda Denshi.

**More information:** Eileen Kaur et al, Arm Size Coverage of Popular

Over-the-Counter Blood Pressure Devices and Implications in US Adults, *Hypertension* (2024). DOI: [10.1161/HYPERTENSIONAHA.124.23473](https://doi.org/10.1161/HYPERTENSIONAHA.124.23473)

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Citation: 6.7 percent of U.S. adults cannot use automatic BP devices due to arm size (2024, September 8) retrieved 8 September 2024 from <https://medicalxpress.com/news/2024-09-percent-adults-automatic-bp-devices.html>

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