Antihypertensive Treatment, Low Systolic Blood Pressure, and Cognitive Decline

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HOW IT WORKS

In each issue, the *Annals* selects an article and provides discussion tips and questions. Take a RADICAL approach to these materials and post a summary of your conversation in our online discussion. (Open the article and click on "TRACK Discussion/ Submit a comment.") Discussion questions and information are online at: http://www.AnnFamMed.org/site/AJC/.

CURRENT SELECTION

Article for Discussion

Streit S, Poortvliet RKE, den Elzen WPJ, Blom JW, Gussekloo J. Systolic blood pressure and cognitive decline in older adults with hypertension. *Ann Fam Med.* 2019;17(2):100-107.

Discussion Tips

Prominent guidelines for hypertension management recommend a goal systolic blood pressure of <130 mm Hg for noninstitutionalized, ambulatory adults aged ≥65 years. The current study uses a cohort design to examine whether stricter blood pressure control is associated with changes in memory. We recommend that participants read both this article and the recently published analysis of the randomized controlled SPRINT trial[2] to compare and contrast the studies and findings.

Discussion Questions

- What question is asked by the study and why does it matter?
- What is the difference between an observational study and a randomized study? Why is this important? Are observational studies able to show causation?[3]
- What is the difference between categorical, dichotomous, ordinal, and continuous variables? Why does this matter?[4]
- How is change from baseline measured in this study? Is this an appropriate way to measure change from baseline measures?[5]
- How appropriate is the observational, prospective cohort study design for answering this question?
- To what degree can the findings be accounted for by:
  - How patients were selected, excluded, or lost to follow-up?
  - How patients were stratified?
  - How confounding variables were accounted for?
  - The amount of time allotted for follow-up?
  - How the main outcome variables were measured?
- What are the main findings of this study?
- How relevant are the outcome measures (Mini-Mental State Examination, Groningen Activities Restriction Scale, and EQ-5D-3L) for capturing the outcomes of interest (ie, memory loss)?
- How does this study compare to the analysis of the SPRINT trial and cognitive impairment?[3] Could both of these trials be correct?
- How might this study change your practice?
- What future research would be most valuable to pursue?

References

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5. How should change be measured? http://biostat.mc.vanderbilt.edu/wiki/Main/MeasureChange. Published Jan 4, 2017. Accessed Feb 22, 2019.