

Hypertension Treatment Practices in Primary Care

Hyman DJ, Pavlik VN. Self-reported hypertension treatment practices among primary care physicians: blood pressure thresholds, drug choices, and the role of guidelines and evidence-based medicine. Arch Intern Med 2000;160:2281-6.

Study Overview

Objective. To determine if national hypertension management guidelines and principles of evidence-based medicine are important determinants of hypertension control in primary care practices.

Design. Cohort study.

Setting and participants. 1200 primary care physicians in internal medicine, family practice, or general practice in the United States.

Main outcome measures. Participants were asked to fill out a 26-item questionnaire that assessed (1) blood pressure criteria used by physicians to begin and intensify hypertension treatment; (2) choice of first-line drugs; (3) awareness of Joint National Committee on Detection, Evaluation, and Treatment of High Blood Pressure (JNC) guidelines on hypertension; and (4) familiarity with methods used to develop evidence-based guidelines. Three follow-up postcard mailings were sent to nonrespondents, and telephone reminders also were used to promote a high response rate. Analysis was performed to determine if knowledge of JNC guidelines and evidence-based methods would affect hypertension treatment practices. Investigators also measured the number of physicians who reported practice consistent with JNC recommendations.

Main results. 345 physicians (34%) completed the survey. One third of respondents indicated that they would not initiate therapy in middle-aged or older nondiabetic patients unless diastolic blood pressure (DBP) was consistently above 95 mm Hg, and 52% would not begin treatment in middle-aged adults unless systolic blood pressure (SBP) was between 140 and 160 mm Hg. Further, only 24% would begin therapy in patients older than 70 years who had an SBP between 140 and 160 mm Hg. Sixteen percent of respondents reported that they did not treat hypertension. Although thresholds for treating diabetics were lower, only 15% of physicians said that they would start therapy in a patient with a DBP of 94 mm Hg or higher. (The authors did not

assess SBP thresholds for treating diabetic patients.) When intensifying therapy in patients aged 40 to 60 years, 25% of respondents said that they would take no action for a persistent DBP of 94 mm Hg or greater and 33% would not treat a persistent SBP of 158 mm Hg or greater. In patients older than 70 years, 67% of study participants would not intensify treatment for an SBP of 158 mm Hg and 48% would not intensify treatment for a DBP of 94 mm Hg.

Medications most often used in white and Hispanic patients aged 40 to 60 years were angiotensin-converting enzyme (ACE) inhibitors; in African Americans from the same age group, diuretics were most commonly used. When answering questions about guidelines and evidence-based medicine, 41% of survey respondents stated that they either did not know about the JNC guidelines or knew of them but were not familiar with them. Familiarity with research methodology and JNC guidelines was independently associated with a lower threshold for initiating hypertension therapy and choosing a diuretic or β blocker. Also, board certification was associated with a lower threshold to initiate therapy in patients aged 40 to 60 years with a DBP of less than 95 mm Hg and to intensify therapy in younger and older patients with a DBP of 90 to 94 mm Hg.

Conclusion

Many physicians have a higher threshold for diagnosing and treating hypertension than the 140/90 mm Hg criterion recommended by JNC guidelines. Physicians familiar with JNC guidelines are more likely to start therapy at a lower threshold.

Commentary

Several large trials have shown that a reduction of 10 to 12 mm Hg in SBP or 5 to 6 mm Hg in DBP may reduce the

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incidence of stroke by 38% and ischemic heart disease by 16%. Despite these well-known facts, studies continue to demonstrate that physicians are not aggressive enough in managing hypertension. In a review by Manolio et al [1], only 29% of patients were adequately controlled. A recent study by Berlowitz and colleagues [2] showed the same trend; in this survey, 40% of veteran patients with hypertension had a blood pressure of 160/90 mm Hg or higher. Research by Mehta et al [3] showed that physicians did not adhere to guidelines when initiating therapy in older patients, African American patients, or in patients with mild renal insufficiency. However, during the 18-month study period, these physicians did show an increased use of ACE inhibitors in patients with diabetes and congestive heart failure. Younger physicians were more likely to follow guidelines and start therapy at a lower threshold.

Although the reasons behind the lack of guideline compliance are not well understood, this study by Hyman and Pavlik adds some new information. It is one of the first to examine associations between familiarity with JNC guidelines, knowledge of evidence-based medicine, and management of hypertension. The number of study respondents (34%) was below average (54%); it is not clear why Hyman and Pavlik had such a low response rate. The authors did not find any significant demographic variations between responders and nonresponders. Possibly, these physicians did not choose to respond because they were even less knowledgeable about guidelines and standards of care than were responders. Confidence intervals in the study results were fairly wide, probably because of the small sample size. Moreover, these self-reported results may be exaggerated when compared with physicians' actual practices; in reality, compliance with guidelines could be even worse than this study reports.

Applications for Clinical Practice

Along with previously published studies, Hyman and Pavlik's work indicates that hypertension continues to be suboptimally controlled. Physicians generally are not aware of guidelines concerning hypertension management. Further research might examine the practices of other health care providers (eg, nurse practitioners, physician assistants, hypertension specialists), care delivered in teaching institutions, and self-reported versus actual care. The problems involved in managing a chronic disease such as hypertension as well as adhering to guidelines are complex. It is difficult to change physician behavior, which is the key to successful hypertension management. Education on this issue will probably be needed in medical school, training, and practice, although continuing medical education has been shown to be ineffective [4]. Other modalities like problem-based learning models [4] also should be studied to see if they would improve the management of hypertension.

References

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