

Letter to the Editor

Dear Dr. Alvares:

I read with interest the article “Hypertension in a Dental School Patient Population” by SD Kellogg and JP Gobetti, which appeared in the September 2004 *Journal of Dental Education*.¹ The authors discuss the results of a study of a sample of dental school patient records and document the prevalence of hypertension, diagnosed and undiagnosed, and demographic characteristics associated with the blood pressure values. The goal of the project was stated as being “conducted in anticipation of creating a national awareness of the prevalence of hypertension in the patient population, so that appropriate steps may be taken to improve current diagnosis, treatment, and management of hypertensive dental patients.” Screening procedures in dental offices for high blood pressure are a valuable contribution to the health and welfare of patients undergoing dental treatment, as high blood pressure is a known risk factor for cardiovascular, cerebrovascular, and kidney disease.² Since patients often see their dentist more regularly than they see their primary care physician, dental care providers should play a role in the detection and management of high blood pressure.³

The authors accurately report that, in May 2003, six months prior to submission of their article, the Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7) was published.² Although these new guidelines were published and acknowledged by the authors, their data was evaluated by the standard of the previous guidelines (JNC 6).⁴ It is important to note that the new guidelines are more restrictive in the classification of blood pressures, so that values previously considered normal are now classified as pre-hypertension. Patients in the pre-hypertension category are at increased risk of progression to hypertension in the future.² Additionally, the previous levels of stage 1 and stage 2 hypertension have been collapsed into a single category of stage 2 since the medical management of hypertension at these levels does not change significantly.^{2,5}

The JNC 7 report discusses the new evidence that points to increasing levels of risk of sequelae of high blood pressure in individuals who are untreated or undertreated.² Some key findings of the JNC 7 include:

1. In persons older than fifty years, systolic blood pressure greater than 140 mm Hg is a much more important cardiovascular disease (CVD) risk factor than diastolic blood pressure.
2. The risk of CVD beginning at 115/75 mm Hg doubles with each increment of 20/10 mm Hg increase in blood pressure.
3. Individuals who are normotensive at age fifty-five have a 90 percent lifetime risk for developing hypertension.

The authors of the article state that since the study was completed during the time when the JNC 6 recommendations were in effect, their data, submitted after the JNC 7 report was published, were classified by the then-outdated standards. It seems that reclassifying their data according to current guidelines would have been helpful, appropriate, and better able to meet their stated project goal. Use of outdated recommendations is less helpful as educators strive to develop students who recognize the need to use contemporary evidence in clinical decision making. The JNC 7 recommendations are significant for preventive and screening practices that should occur in dental offices (and others) and recommendations that are supported by the American Dental Association, as a contributor to the National High Blood Pressure Education Program Coordinating Committee.²

The authors note that, in their study, nearly half of the hypertensive patients were “recognized and referred” for diagnosis and treatment, which suggests that screening for blood pressure is not always a routine practice in the dental school environment. Another study from clinical practice supports that statement. In a survey of community-based practicing dentists, screening of the blood pressure in new patients with either a history or risk factors for hypertension was completed by only 64 percent of the respondents. Therefore, many of those patients at greater risk of consequences of hypertension may not be screened or evaluated in the dental school or community practice environments.⁶ In the latter study, 26 percent of the dentists reported measuring blood pressure for new patients under the age of thirty. Another study documented elevated blood pressure readings in a sample of college-age students.⁷ More than 13 percent of the participants (mean

age 25.9 years) had clinically elevated blood pressure readings, and of those, more than 5 percent were previously diagnosed and appeared to have been undertreated. These data suggest that screening procedures may not be consistently a part of routine patient evaluation in dental practice.

Routine recording of blood pressure is essential for the comprehensive evaluation of adult dental patients, regardless of age. Inconsistent application of physical evaluation principles based on age and disease-related abnormalities may exclude younger patients or others who are at risk. The JNC 7 report noted the additional medical risk in undiagnosed and undertreated individuals with high blood pressure.² Yet, there remains a disconnect between screening procedures taught and advocated for in dental school curricula and clinical practice. This contributes to students' questioning recommendations as parochial, as they retort, "No dentist has ever checked my blood pressure." Therefore, emphasizing the importance of following current recommendations for the diagnosis of a common disease such as hypertension seems useful. The value of using current, valid reports supporting screening procedures for patients now known to have additional risk of sequela of a common medical condition such as hypertension is appropriate. However, new means for emphasizing the utility of these guidelines for screening procedures in clinical education and clinical practice must be explored.

Additionally, the abstract of this article states, "Patient records were retrospectively reviewed to investigate the incidence of hypertensive patients." It appears that the authors have confused the terms "incidence" and "prevalence." Incidence implies prospective study to document the occurrence of new cases, while prevalence is a term indicating the occurrence rate at a given point in time, which is appropriate for retrospective studies such as this.

As educators look to preparing the dentists of the future, the connection among screening procedures, health risk, and health outcomes should be of greater importance. This is especially meaningful as

dental disease emerges as an important component of systemic health problems. Bringing theory and practice together in health screening is a key concept for students, especially when the consequences of failure to do so can have documentable negative outcomes for patients. Knowledge in the context of current recommendations is paramount for students to understand their obligation to be state of the art.

I thank the authors for reporting on an important topic that bridges health screening and disease detection.

—Marsha A. Pyle, D.D.S., M.Ed.

Associate Professor

Department of Oral Diagnosis & Radiology

Case School of Dental Medicine

10900 Euclid Ave.

Cleveland, OH 44106-4905

216-368-3968 phone; 216-368-3204 fax

map6@case.edu

REFERENCES

1. Kellogg SD, Gobetti JP. Hypertension in a dental school patient population. *J Dent Educ* 2004;68(9):956-64.
2. U.S. Department of Health and Human Services. Seventh report of the joint national committee on prevention, detection, evaluation, and treatment of high blood pressure. NIH Publication No. 03-5233. May 2003. At: www.nhlbi.nih.gov/guidelines/hypertension/jncintro.htm. Accessed: November 1, 2004.
3. Herman WW, Konzelman JL Jr, Prisant LM. New national guidelines on hypertension: a summary for dentistry. *J Am Dent Assoc* 2004;135:576-84.
4. The sixth report of the joint national committee on detection, evaluation, and treatment of high blood pressure. *Arch Intern Med* 1997;157:2413-46.
5. Glick M. The new blood pressure guidelines: a digest. *J Am Dent Assoc* 2004;135:585-6.
6. Pyle MA, Sawyer DR, Jasinevicius TR, Ballard R. Blood pressure measurement by community dentists. *Spec Care Dent* 1999;19(5):230-4.
7. Pyle MA, Lalumandier JA, Sawyer DR. Prevalence of elevated blood pressure in students attending a college oral health program. *Spec Care Dent* 2000;20(6):234-9.

The authors respond:

Dr. Gobetti and I would like to thank Dr. Pyle for sharing her interest and comments in regards to our article, "Hypertension in a Dental School Patient Population." As indicated in the article, the goal of our study was to create a national awareness of the prevalence of hypertension in the patient popu-

lation, so that appropriate steps may be taken to improve current diagnosis, treatment, and management of hypertensive dental patients.

The research was initiated to fulfill my senior thesis, as required for all graduating seniors attending Kalamazoo College (Kalamazoo, MI). Our re-

search began at the University of Michigan in June of 2002, and the original manuscript was completed during the last term of my senior year of college, spring of 2003.

After our research received much attention as an ADEA poster presentation in San Antonio, TX, in March 2003, we were encouraged by many to submit our research and results for publication. Authors chose to evaluate the data by the standard of the guidelines that were in place when the research was conducted.

The introduction of our article addressed the classification, changes, and importance of the new JNC 7 guidelines. As noted, had the new guidelines been in effect when the research was evaluated, the results would have only proved more significant be-

cause of the more restrictive classifications of the JNC 7.

We do agree with Dr. Pyle's suggestion that in the abstract of the article "prevalence" would have been a more appropriate term than "incidence."

Dr. Gobetti and I would sincerely like to thank Dr. Pyle for sharing our interests in creating more awareness of hypertension in dental practice today.

—Sara Kellogg
Second-Year Dental Student
Department of Oral Medicine/
Pathology/Oncology
University of Michigan School of Dentistry
1011 University Ave.
Ann Arbor, MI 48109-1078
734-476-6705 phone; 734-764-2469 fax
skellog@umich.edu