

What Is in a Name?

How Biomedical Language May Derail Patient Understanding of Hypertension

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Abstract—Despite major advances in treating hypertension, >50% of all individuals diagnosed with the condition remain in poor control. A fundamental issue may be that patients may not fully understand the meaning of the term hypertension or its cause, leading to poor adherence to medications and limiting other effective self-management behaviors. We posit that the word hypertension itself may contribute to these misunderstandings, particularly in regards to the role of stress in causing hypertension, which thus suggests stress management as a primary strategy for control. The word hypertension is often interpreted by patients to mean too much tension. In conjunction with cultural framings of stress causing high blood pressure, many patients turn to stress management to control their hypertension. The word hypertension can thus cause patients to think of it as more of a psychological than physiological condition, thus discounting the value of antihypertensive medications and interfering with medication adherence. We therefore suggest that clinicians reconsider the use of the term hypertension and the ways in which they explain the condition to patients. Reorienting the language to the more patient-centered term of high blood pressure may help patients better understand the condition and to more readily embrace the available efficacious therapies.

Ask a patient what s/he thinks hypertension is and you may hear something like these words from actual patients:

Hypertension would be from...Somebody making you upset and getting overexcited and then it tightens up.

I keep saying if I move upstate I won't have hypertension. I probably will not need medication, the lifestyle's going to be different, it'll be more relaxed.

I'm pretty sure [my hypertension is] back under control now...Because I don't feel the pressure in my neck. And I usually check when I get pressure in the back. I'll check it and it will be high.¹

The word hypertension is common, even in lay parlance, and the medical establishment often assumes that patients understand what hypertension is and how it affects them. But language is easily interpreted in ways unintended by the speaker. The term hypertension is a prime example of the problem of medical language or jargon being misinterpreted by the lay person. Although the term is used alternately with the term high blood pressure, studies from around the world indicate that patients may not understand the words in the same way as clinicians, and this may have significant implications for medication adherence and ultimately, outcomes.¹⁻³

Despite major advances in pharmaceutical treatment and more intensive therapy being prescribed, as many as 53% of

those diagnosed with hypertension remain poorly controlled, resulting in high rates of target organ damage and stroke.⁴ A recent Cochrane review of interventions to improve hypertension control notes that such interventions to issues of medication adherence and lifestyle factors have had limited success,⁵ whether focused at the provider or clinic level or at educational programs for patients. This may be in part because patients such as those quoted above have misconceptions about the cause and meaning of the condition. We posit that a fundamental problem with the language used by providers and the healthcare system impedes patients' understanding of the problem, their self-management of the condition or its risk factors, and their openness and adherence to prescribed therapies.

The term hypertension came into broad use in medicine in the 1950s, but dating back to around 1895, has referred to the overstretching, hence tension, of the arteries and related increased arterial pressure.⁶ Based on the Latin root *tensio*, the state of tenseness that accompanies stretching or extension, the word tension has a vastly different meaning in the context of everyday language, in which it is largely associated with emotional distress. The word stress, originating in 1303, is derived from the French word, *distresse*, meaning hardship, adversity, force, or pressure. It was not until 1942 that the modern meaning of the word stress emerged as the nonspecific result of any demand on the body, whether mental or somatic.⁷ Since then the discussion of stress leading

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Circ Cardiovasc Qual Outcomes is available at <http://circoutcomes.ahajournals.org>

DOI: 10.1161/CIRCOUTCOMES.114.001662

to illnesses, particularly cardiovascular disease, has become rampant in the Western cultural milieu.

Individuals seek information about their conditions from many sources other than their healthcare providers, including friends, families, and commonly used websites.⁸ Despite medical and technical definitions that clarify that hypertension is about arterial pressure, standard dictionary definitions, which may occasionally be accessed on the internet by patients, differ. A search for the term on dictionary.com reveals the following 2 definitions: the first a biomedical definition, but the second reinforcing the idea of hypertension as stress: “excessive or extreme emotional tenseness.”⁹ Hypertension is thus frequently viewed as a disorder of mental stress, evidenced by lay comments such as stress making my blood boil. A frequently visited medical advice website even cites stress management as a treatment for hypertension and provides advice on stress management.¹⁰

As individuals are diagnosed with hypertension, therefore, it is not surprising that they would associate the term, and condition, with stress. A recent systematic review of 53 adherence studies from around the world notes that nonadherence to hypertension treatment often resulted from patients’ relying on the presence of stress or symptoms to determine whether blood pressure was raised.³ Patients often associate particular symptoms with hypertension, including headaches, neck aches, and feeling anxious.^{1,11–13} These are symptoms of stress itself and although patients may experience symptoms from high blood pressure, most often such symptoms have little relationship with variations in blood pressure. By focusing on symptoms, these patients only treat their hypertension at times when they experience such symptoms and think their blood pressure is high. Patients in most of the studies also described varying their adherence to medications depending on the presence or absence of symptoms. Thus, nonadherence to medications often ultimately led to poorly controlled blood pressure. Remarkably, these beliefs were similar across ethnic and geographical groups. Several studies included in the review provide further evidence that the word hypertension itself may contribute to this focus on stress as a primary cause of hypertension.^{12,13}

Other studies also support the premise that the word hypertension may contribute to this conceptualization of hypertension. One study of black women found that the word hypertension had morphed into the term high-pertension, that is, perceptions that their tension in fact was high.¹⁴ We surmise that lay people hear the word hypertension and interpret it to mean: hyper—too much and tension—stress. Studies of conceptualizations or explanatory models of hypertension have found as many as 50% of patients endorsing stress as a significant cause of hypertension.^{1,15,16} Patients described stress as anxiety, tension, and feeling the blood rise up, and described ways they tried to calm down to lower their blood pressure.

Further evidence of the impact of the word can be found in a US experimental study, in which researchers found that the label hypertension led patients to endorse relaxing more as an effective treatment, more than when the same condition was labeled with another term, Korotkoff syndrome.² Thus, the use of the term hypertension by clinicians or health educators may detract from a conceptualization of its being caused by

physiological changes. Consequently, patients diagnosed with hypertension may overemphasize the role of stress reduction as a means for controlling blood pressure and fail to focus on other effective hypertension management behaviors: watching one’s diet and weight, getting adequate exercise, and adhering to effective antihypertensive medications.

Although it is clear that stress increases blood pressure situationally, the relationship between stress and essential hypertension remains controversial. The Joint National Commission 6 guidelines noted stress reduction as a tool for blood pressure control, while simultaneously stating the lack of evidence that stress causes hypertension. Notably, in Joint National Commission 7 and 8, any mention of stress was eliminated,¹⁷ and a recent American Heart Association review concluded that stress reduction is not an effective primary treatment for the condition.¹⁸

Thus, the word hypertension may derail patients’ understanding of the condition and impede clinicians’ ability to keep them patients on the right track of hypertension management. The misunderstanding of the terminology may be especially salient for patients with low health literacy. As the US Department of Health and Human Services pushes forward with the A Million Hearts campaign, with blood pressure control as central, the time is ripe for us to reconsider the use of the term hypertension. Although eliminating the term entirely from the medical lexicon would be a radical shift (and may incur problematic costs), we suggest that providers recognize the potential problem incurred by the word in the context of the clinical encounter and begin to address these issues. Recognizing that the meaning that patients give to the term is misaligned with the biomedical and physiological meaning may provide a key starting point for providers to educate patients and influence them to change lifestyle and medication taking behaviors. When discussing hypertension with patients, providers should explicitly address the potential that their patient may interpret hypertension as experiencing stress, detectable through symptoms which are often associated with stress.

Providers should also be explicit with patients about the biomedical/technical meaning of the terms and concurrently address the lay meaning. They should discuss the biomedical meaning of hypertension as force of blood in the arteries; yet, concurrently they must address the lay conceptualizations on stress, and how elevated blood pressure is and is not related to stress. It may be critical as well to discuss how blood pressure rises in response to exercise or acute stress, but that in fact this is different from the chronic condition hypertension. And finally, a discussion that when one’s blood pressure is well controlled with the use of medications and lifestyle changes does not mean they have been cured and that the condition remains chronic. Then recommendations on optimal hypertension management may lead to better adherence to medications and behavior change. Thus, it is incumbent on providers to recognize the problems which words lead to when interpreted in a lay context.

Improving control of high blood pressure may require a shift in understanding the impact of the language used to name the condition and the discussion that ensues in the context of the clinical encounter. Organizations dedicated to

patient education may also wish to reconsider the use of the term or explicitly address misconceptualizations that the term elicits. A gradual change in terminology may help patients understand the condition in a manner more congruent with the biomedical understanding. Reorienting our language to the more patient-centered term of high blood pressure may help patients better understand the condition and to more readily embrace the available efficacious therapies.

The word hypertension is one of many in the clinical, biomedical world that are interpreted differently by people in the lay world. As we move toward a more patient-centered medical care system, paying attention to patients' understandings of biomedical language is critical to insuring that providers have the greatest possible impact on the health of their patients.

Acknowledgments

We thank Drs Saha and Berlowitz for their helpful comments on earlier drafts of this article.

Sources of Funding

This article was supported by the Department of Veterans Affairs, Health Services Research and Development grant no. IIR 05-062. Dr Kressin is supported by a Senior Research Career Scientist award from the Department of Veterans Affairs, Health Services Research & Development Service (RCS 02-066-1). The views expressed in this article are those of the authors and do not necessarily represent the views of the Department of Veterans Affairs.

Disclosures

None.

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KEY WORDS: antihypertensive agents ■ hypertension ■ language ■ medication adherence ■ patient education as topic

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Circ Cardiovasc Qual Outcomes. 2015;8:452-454; originally published online July 7, 2015;
doi: 10.1161/CIRCOUTCOMES.114.001662

Circulation: Cardiovascular Quality and Outcomes is published by the American Heart Association, 7272
Greenville Avenue, Dallas, TX 75231

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Print ISSN: 1941-7705. Online ISSN: 1941-7713

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World Wide Web at:

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