Editorial Commentary

Labeling and Hypertension
It Is Time to Intervene on Its Negative Consequences
Gbenga Ogedegbe

With the increasing prevalence of hypertension in the adult population, a good number of patients are potentially vulnerable to been mislabeled or misdiagnosed as hypertensive, with resultant negative consequences. Sir George Pickering raised the issue of labeling, when he suggested that hypertension labeling might evoke a feeling of fear of the affliction of a serious disease in a patient. This assertion has been proven accurate by numerous investigators who have documented the negative psychological consequences of hypertension labeling. The study by Hamer et al in this issue of the journal is yet another important reminder of the negative consequences of hypertension labeling. In a population-based cohort of >33,000 individuals (aged 51.7±12.1 years; 45.8% men), the authors assessed levels of psychological distress using the 12-item General Health Questionnaire, measured blood pressure, and collected history of hypertension diagnosis and medication usage. Awareness of hypertension (labeling) was confirmed through a physician diagnosis or the use of antihypertensive medication and being unaware of hypertension was defined by elevated clinic blood pressure >140/90 mm Hg without previous treatment or diagnosis. Compared with normotensive participants, an elevated risk of psychological distress was observed in aware hypertensive participants (multivariable adjusted odds ratio: 1.57 [95% CI: 1.41 to 1.74]) but not in unaware hypertensives (odds ratio: 0.91 [95% CI: 0.78 to 1.07]). Similar to previous studies, these findings confirm the negative psychological sequelae of hypertension labeling. Unlike previous studies, however, this is the largest population-based study of hypertension labeling to date, and it provides some insight that even when one accounts for medication effects, the effect of hypertension labeling on psychological risk is pretty significant. Earlier studies reported positive association between hypertension labeling and absenteeism from work self-reported illness among a group of Canadian steelworkers; those who were recently labeled as hypertensive reported worsening of their marital and home life in the following year after diagnosis independent of their absenteeism or treatment status, thus suggesting that hypertension labeling does have a negative effect on patient well being.

What is yet unresolved, however, is the longitudinal nature of the effects of hypertension labeling on patient psychological well being and quality of life. It is also unclear whether these effects have any impact on target organ damage, cardiovascular events, and mortality. If one believes that stress (a negative psychological phenomenon) has negative effects on patient outcomes, including mortality, it is then not far fetched to infer that hypertension labeling may confer a long-term negative impact on patient outcomes. Indeed, this notion is borne out by the fact that one proven mechanism of hypertension labeling is the increased level of sympathetic arousal and an exaggerated blood pressure response to cold pressor test noted in this population during repeat blood pressure assessment in a medical setting when compared with individuals who were unaware of their hypertension status, thus indicating that the awareness of hypertension diagnosis is associated with increased sympathetic activity and resultant elevated blood pressure. Whether these effects are situational or persistent is unclear given the lack of data on continuous blood pressure monitoring. In a study using 24-hour ambulatory blood pressure monitoring, we demonstrated that patients with perceived hypertension status exhibited higher levels of anxiety and significantly greater white coat effect compared with those who were unaware of their diagnosis. Although the duration of such effects are unknown, parallel studies of similar population indicate that laboratory-induced stress has a negative effect on 24-hour ambulatory blood pressure, such that patients who are subjected to negative messages often have elevated blood pressure 24 hours after the stimulus. Such effects have further been shown to have a negative impact on cardiovascular reactivity, a proxy for target organ damage. A definitive study would be to assess the long-term impact of such sustained white coat effect in aware and unaware patients and to relate this to target organ damage if any.

The good news is that hypertension labeling can be prevented with appropriate framing of health messages. Experimental studies suggest that the negative consequences of this phenomenon are avoidable. This seems to be the case in a carefully designed study of 5888 electronic workers conducted by Rudd et al, in which the workers found to be hypertensive on screening were randomized to receive 1 of 2 messages. One group was informed of the risks associated with hypertension and the need for treatment (traditional debriefing), whereas the other group received reassurance and information on the variability of blood pressure measurement. There were no differences in the rates of absenteeism the following year in both groups. Similarly, as stated earlier,
Rostrup et al demonstrated that sympathetic arousal in patients who received threatening messages were worse compared with those who received neutral messages about their hypertension status among military recruits. Although not in this population, there is good evidence that framing health messages in a nonthreatening manner makes patients more open to receiving threatening messages in a positive way.

Given all that we know about the negative consequences of hypertension labeling to date, it is important for healthcare providers to present information on hypertension status to patients in a much more positive manner than is currently the practice. If we plan to reduce or prevent the negative psychological consequences of hypertension labeling, mere provision of information on the risks of hypertension may not be good enough; we should do more to provide such information in an empathic or at least neutral manner. This method of framing health messages is not new and has been widely adopted for cancer and genetic screening field. As is often said in an African proverb, “the messenger may be more important than the message,” so the delivery of hypertension diagnosis in a positive manner may be more important and make acceptance of threatening health messages more palatable than the diagnosis of hypertension itself. This is especially true for 2 important reasons. First, we have an arsenal of both pharmacological and nonpharmacological approaches that have proven efficacy in treatment of hypertension. Second, and more importantly, the prevalence of prehypertension is ever increasing (with 25% of the population afflicted), and how we frame health messages to patients is becoming increasingly important in this information age, less we make more people “sick” and vulnerable to the unintended consequences of negative psychological sequelae of hypertension labeling.

Future research should explore the long-term psychosocial consequences of hypertension labeling; its relationship to white coat hypertension/white coat effect, cardiovascular morbidity, and mortality; the duration of the sympathetic arousal evoked by hypertension labeling; and, finally, the impact of neutral and positive message framing on attenuating these effects. Although the scientific community continues to explore these exciting areas of research, healthcare providers will do well to yield to the advice of Dr Thomas Pickering: “When we diagnose and treat patients with hypertension, we should emphasize the positive aspects of care. Our message to the public should not be that hypertension is the ‘silent killer’ but that it is a risk factor that can be readily controlled by an ongoing partnership between patients and their health care providers.”

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References
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