

See ORIGINAL CONTRIBUTION page 149

# Adherence to Medication: The Importance of Research in Primary Care

José C. Prado Jr<sup>1</sup> and Decio Mion Jr<sup>2,3</sup>

**P**atient adherence in systemic hypertension (SH) is an essential factor that ensures treatment effectiveness and the actual reduction of morbimortality.

Many studies that assess adherence present two limitations. The first one is related to external validity, compromising the generalization of the results for the overall population. Several studies may present a selection bias when recruiting individuals from the hospital environment. These people may differ from others in the community, being more adherent and more concerned about their health.

In order to minimize a possible selection bias, all hypertensive individuals in a community should be offered the same opportunity of being included in the study. People who are followed-up in public services, in the private system, as well as those who are not followed-up at all should be part of the sample. For this reason, primary health care includes all these individuals, and the results can be more accurate.<sup>1</sup>

The other limitation is related to the applicability of the results. These methods are often inapplicable in clinical practice.

A recent study was conducted with a sample of hypertensive individuals in a primary health care community.<sup>2</sup> The purpose of this study was to assess the predictive value of four simple indirect methods: (i) blood pressure (BP) control; (ii) knowledge about SH; (iii) self-reported adherence; (iv) patients' attitudes (Morisky–Green test). For example, if a doctor asks the patient whether he/she made use of his/her medication, to what extent can this doctor trust that the patient actually took the medication? If that same patient presents noncontrolled BP, what is the possibility of it being due to nonadherence?

Consequently, the authors concluded that when the patient states that he/she does not take the medication, it is very

probable that he/she is truly nonadherent. However, when the patient reports that he/she takes the medication regularly, the predictive value is low. The BP control was the indirect method with the best prognosis of patient's adherence and, among the risk factors associated, the absence of side effects was the main indicator.

The study undertaken by Van Onzenoort *et al.*<sup>3</sup> includes an important topic, which is patient adherence, and was well conducted. Possibly some limitations to the study could have been minimized if the selected sample of hypertensive patients had been randomized from the total hypertensive population of the community. It would be interesting to compare the adherence between the two groups studied, those in primary health care and those in hospitals.

A great number of authors define excess medication fills as the use of 110% or more of the defined daily dose.<sup>4</sup> In this study,<sup>3</sup> excess fills were not regarded as nonadherence; therefore, the number of nonadherents could be higher in this current research.

Further studies developed in primary health care should be conducted to better assess adherence to medication.

**Disclosure:** The authors declared no conflict of interest.

1. Gervas J, Starfield B, Violan C, Minue S. GPs with special interests: unanswered questions. *Br J Gen Pract* 2007; 57:912–917.
2. Prado JC Jr, Kupek E, Mion D Jr. Validity of four indirect methods to measure adherence in primary care hypertensives. *J Hum Hypertens* 2007; 21:579–584.
3. van Onzenoort HAW, Verberk WJ, Kessels AGH, Kroon AA, Neef C, van der Kuy P-HM, de Leeuw PW. Assessing medication adherence simultaneously by electronic monitoring and pill count in patients with mild-to-moderate hypertension. *Am J Hypertens* 2010; 23:149–154.
4. Sackett DL, Haynes RB, Gibson ES, Hackett BC, Taylor DW, Roberts RS, Johnson AL. Randomised clinical trial of strategies for improving medication compliance in primary hypertension. *Lancet* 1975; 1:1205–1207.

<sup>1</sup>Department of Primary Care, Ministry of Health of Brazil, Brasília, Brazil;

<sup>2</sup>Hypertension Unit, Clinic Hospital, University of São Paulo, São Paulo, Brazil;

<sup>3</sup>Department of Nephrology, School of Medicine, University of São Paulo, São Paulo, Brazil. Correspondence: José C. Prado Jr ([jcpradojr@gmail.com](mailto:jcpradojr@gmail.com))

doi:10.1038/ajh.2009.205

© 2010 American Journal of Hypertension, Ltd.