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Task force VI: Self-monitoring of the blood pressure.

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BACKGROUND: Self-monitoring of the blood pressure by patients at home or in other nonclinical settings has become increasingly common in recent years. This phenomenon has been fueled in part by the increase in availability of automatic sphygmomanometers, which are now both affordable and easy for patients to use. BENEFITS OF SELF-MONITORING: Self-monitoring of the blood pressure can be an important adjunct to management of hypertension. The technique allows patients to participate more in their care. Self-measured values of blood pressure are more likely to be representative of the average daily blood pressure than is a clinic measurement and may be better related to hypertensive involvement of target organs and cardiovascular morbidity than is the clinic blood pressure. Finally, the self-monitoring of blood pressure has the potential to reduce the costs of hypertension-related care. LIMITATIONS OF SELF-MONITORING: There are several issues that prevent the more widespread use of self-monitoring of the blood pressure in clinical practice. First, devices marketed for use by patients have advanced technically during the 1990s, but many have not been subjected to rigorous clinical validation for precision and reliability (e.g. in terms of Association for the Advancement of Medical Instrumentation and British Hypertension Society guidelines). It is recommended that devices for measuring blood pressure used by patients at home be subjected to the same validation processes as those that are applied to ambulatory recordings. Second, although the upper limits of normal for self-monitored blood pressure of a general population can be defined statistically (it is approximately 135/85 mmHg), it is not yet possible to determine the normal self-monitored blood pressure because these values must be linked to classical clinical cardiovascular endpoints or outcomes. Third, the relationships among self-monitored, clinic, and ambulatory blood pressures are defined for some populations but their behaviors according to age, sex, ethnicity, and treatment status require further study. Fourth, several different schedules for self-monitoring of the blood pressure by patients have been used in clinical research and practice. It will be necessary to determine the optimal schedule and number of recordings required when patients perform self-monitoring of the blood pressure. Fifth, self-monitoring of the blood pressure in clinical trials of antihypertensive therapies is certainly feasible but has typically not been included in their design, either by investigators or by the pharmaceutical sponsors. Sixth, there have been data suggesting that self-monitoring of the blood pressure reduces the comprehensive costs associated with hypertension care on an annual basis. However, since most work on the economic impact of self-monitoring of the blood pressure has been performed in managed-care environments in the USA, it is not known whether this reduction in health-care costs would be applicable to other types of practice environments on a worldwide basis. CONCLUSIONS: Self-monitoring of the blood pressure is at present useful as an adjunct measurement for the

management of hypertensive patients and might provide benefits in clinical trials of antihypertensive therapy. Nevertheless, the available data on self-monitoring of the blood pressure are inadequate as grounds for clinicians to make primary diagnostic or therapeutic decisions and should not override the blood pressure obtained by clinical measurement or via ambulatory monitoring.

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