



Title	Moderately Elevated Blood Pressure
Agency	SBU, The Swedish Council on Technology Assessment in Health Care P.O. Box 5650, SE-114 86 Stockholm, Sweden; Tel: +46 8 412 32 00, Fax: +46 8 411 32 60; info@sbu.se
Reference	SBU Report 170, 2004, ISBN volume 1 91-87890-97-6, volume 2 91-85413-00-3, Summary and Conclusions and Volume 2 are available in English on www.sbu.se

Aim

To update the SBU report on Moderately Elevated Blood Pressure from 1994 with information from blood pressure studies published from 1994 to 2004. The report evaluates different treatment options, including cost effectiveness.

Conclusions and results

Elevated blood pressure (BP) is a risk factor for coronary heart disease, stroke and other cardiovascular disease. In Sweden, about 27% of the adult population of both genders (20 years and older) have hypertension. Of these, 80% have a medium or high risk for disease. Only 20% to 30% of those treated reach a BP below 140/90 mm Hg. Women have a lower absolute risk of cardiovascular disease than men. However, antihypertensive treatment reduces the relative risk equally in women and men.

Lifestyle changes, eg, physical activity, weight loss, and smoking cessation can minimize the risk factors for cardiovascular disease. Treatment to lower blood pressure reduces the risk for stroke, myocardial infarction, and premature death in hypertensives of both sexes.

The antihypertensive drugs ordinarily used in Sweden – thiazide diuretics, ACE inhibitors, angiotensin receptor blockers and beta blockers – are equally effective (reduction of approximately 10/5 mm Hg) when administered separately. Since the efficacy of different drugs can vary by individual, one may need to change or add medications to reduce BP.

At least half of all patients with type 2 diabetes have hypertension. The effect of hypertension treatment on the absolute risk of cardiovascular disease morbidity and mortality is greater with concurrent diabetes. In people with type 2 diabetes, the impact on relative risk is also greater. Patients whose treatment is based on drugs that directly affect the renin–angiotensin–aldosterone system are less likely to develop type 2 diabetes than those whose treatment is based on a thiazide diuretic combined with a beta blocker or on a calcium channel blocker.

Choice of medication has a major impact on drug costs and cost effectiveness. Prescribing the least expensive equivalent medication when possible would reduce drug costs and improve cost effectiveness compared with current prescription patterns.

The ethical dilemma of treating an apparently healthy person with drugs for a long period should be weighed against the risks of withholding treatment that may prevent disease.

Methods

The report is based on a systematic review of CT studies of hypertension treatment. Meta-analysis was used in evaluating the literature on left ventricular hypertrophy. Model calculations for various treatment options were based on Swedish risk data.

Further research/reviews required

More knowledge is needed on: how to improve patient compliance with antihypertensive treatment and suitable ways for health professionals to adopt the desired changes; effects of non-pharmacological treatments; how to treat elderly people (>80 years of age) with hypertension; and the possibility to arrest dementia by lowering BP.

Certain antihypertensive drugs appear to be a risk factor for diabetes, but long-term studies are needed on the consequent effect on the risk for cardiovascular disease. The impact of moderate changes in glucose metabolism on the risk for diabetes mellitus and cardiovascular disease should also be studied.