

RS Vasan et al. *The Lancet*. November (2001) Vol. 358 #9294 p 1682.

A great deal of stress research has focussed on the link between exposure to stressors and blood pressure. High blood pressure is not an injury, but increases the risk of heart disease and cerebrovascular disease.

This study is not directly related to stress, but examines variations of blood pressure with age, obesity, weight change etc. Stress studies should account for these confounding factors if they are to be credible.

Definitions:

All units are mmHg and defined in terms of systolic/diastolic pressure.

Optimum <120/80

Normal 120-129/80-84

High normal 130-139/85-89

Hyper Tension \geq 140/90



The study population is that of the Framingham Heart Study: 4200 men 5645 women mean age at onset 52 studied from 1978 to 1994.

No-one aged less than 35 or over 94 was entered. None were hypertensive (HT) at the start.

Examined every 2 years.

At baseline:

- 53% of women and 36% men were optimal
- 27% and 33% were normal and,
- 20% and 30% were high normal.

After 4 years, those at working age:-

- 5.3 % of optimums became HT,
- 17.6% of normals became HT,
- 37.3% of high normals became HT.

5% weight gain resulted in a 20-30% increased odds of HT.

Progression to hypertension was predicted by age and BMI and weight gain and of course baseline.

Comment

Risk of new hypertension is strongly linked to current blood pressure and weight gain.

Blood pressure among the working population may be different from these general population values, work factors may be indirectly implicated.

Changes in blood pressure with age are commonplace. There is no clear threshold for diseases related to hypertension.

About 5% of HT persons show a rapidly rising blood pressure, which, if untreated leads to death within a year or two.

The results of this study provide valuable baseline information and size effects for confounders.