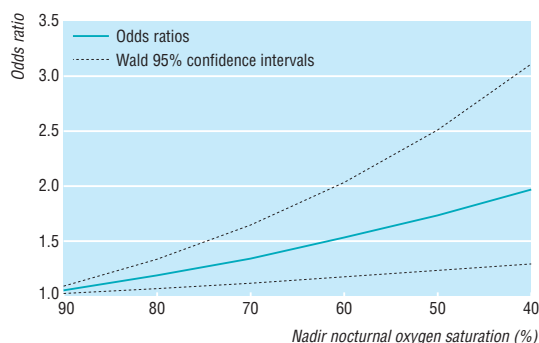


Table 5 Odds ratios for nadir in nocturnal oxygenation, body mass index, sex, age, and hypertension

Variable	Estimate (Wald 95% CI)	Odds ratio
Intercept	-5.890 (-7.020 to -4.761)	—
Age (10 years)	0.810 (0.723 to 0.896)	2.25
Sex (male)	0.264 (0.047 to 0.482)	1.30
Body mass index (5 kg/m ²)	0.360 (0.282 to 0.438)	1.43
Nadir (10% decrease)	0.133 (0.055 to 0.212)	1.14

**Fig 2** Odds ratios and Wald 95% confidence intervals for hypertension associated with oxygen saturation nadir levels of 90%, 80%, 70%, 60%, 50%, and 40% predicted by model hypertension= $e^{-0.133\text{nadir}+0.081\text{age}+0.265\text{male}+0.72\text{body mass index}}$ (n=2451)

index (within SD 2 kg/m²) with controls (apnoea-hypopnoea index 10 or less). The 674 patients with sleep apnoea we successfully matched (data not shown) had significantly higher blood pressure measurements than their matched controls (122.4 (SD 15.7) versus 118.7 (15.5) mm Hg, $t=4.67$, paired t test $P<0.0001$; 73.7 (10.2) versus 70.9 (9.9) mm Hg, $t=5.20$, $P<0.0001$).

Our 1% estimate of risk for hypertension for each event per hour of sleep is lower than the 4% previously reported.⁶ This may be because our reference group comprised a large number of heavy snorers who were suspected of having sleep apnoea but who were found to have an apnoea-hypopnoea index lower than 10. Snoring was previously reported to be associated with increased levels of blood pressure.⁹

Active approach in diagnosis

Our findings, together with previous reports,^{5,6} show that sleep apnoea constitutes an independent risk factor for hypertension. Multivariate analysis of mortality data in patients with sleep apnoea showed that hypertension was a significant independent predictor of cardiopulmonary deaths in these patients.¹⁰ These findings have clinical implications concerning diagnosis and treatment of sleep apnoea. Currently, most patients are referred for diagnosis only when symptoms are severe enough to affect their quality of life or to attract the attention of family members. Snorers, even with obvious daytime sleepiness, were reported to be passive in seeking medical help for their symptoms.¹¹ The association of sleep apnoea with hypertension warrants a more active approach in the diagnosis of sleep apnoea.

We thank Ms Gay Natanzon for editing and checking the manuscript.

Contributors: PL designed the data analysis and wrote the paper. VH was responsible for data collection and organising the database and participated in writing the paper. PH performed the statistical analysis.

What is already known on this topic

Previous studies have suggested that sleep apnoea syndrome is associated with hypertension, but until now evidence from a large population attending a sleep clinic in which confounders were controlled for has been lacking

What this paper adds

Based on either medical history or actual blood pressure measurements there is an association between sleep apnoea and hypertension, which is independent of the most important confounders

Sleep apnoea syndrome should be taken into account in the differential diagnosis of essential hypertension

Funding: Technion Sleep Disorders Center (SDC).
Competing interests: None declared.

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(Accepted 2 December 1999)

Notice of inadvertent duplicate publication

The *BMJ* regrets that the paper "Screening for carcinoma of the prostate by digital rectal examination in a randomly selected population" by K V Pedersen, P Carlsson, E Varenhorst, O Lofman, and K Berglund (*BMJ* 1990;300:1041-4) was substantially similar to a paper published in *Acta Oncologica* (1991;30:273-5) entitled "Screening for carcinoma of the prostate in a randomly selected population using duplicate digital rectal examination" by E Varenhorst, K V Pedersen, P Carlsson, K Berglund, and O Lofman and to one published in *Recent Results in Cancer Research* (1993;126:25-30) entitled "Screening for carcinoma of the prostate in a randomly selected population" by E Varenhorst, K V Pedersen, P Carlsson, K Berglund, and O Lofman. The two later papers make no reference to any earlier paper, and the editor of *Acta Oncologica* was not told of the existence of the earlier paper, in contravention of both the *BMJ*'s and *Acta Oncologica*'s instructions to authors and of internationally agreed guidelines (we have been unable to contact the editor of *Recent Results in Cancer Research*). Professor Varenhorst has apologised.