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**Abstract**

**BACKGROUND:** Cessation of smoking is known to have health benefits, but individuals who give up smoking can also suffer adverse effects. This study investigated the effects of smoking cessation on cardiovascular risk factors in a community-based sample.

**METHODS:** Longitudinal risk factor data were analysed in 1372 women and 888 men who took part in population-based mass health screenings in the rural town of Busselton, Western Australia. Age-adjusted changes in body weight, forced expiratory volume in 1 s (FEV1), forced vital capacity, blood pressure and total cholesterol over 3-year and 6-year follow-up periods were compared for 235 ex-smokers ('quitters'), 1499 never-smokers and 526 continuing smokers.

**RESULTS:** In women, weight gain was larger in 'quitters' than in continuing smokers after 3 years (1.74 versus 0.32 kg, \( P = 0.015 \)) and after 6 years (2.39 versus 1.24 kg, \( P = 0.085 \)). Male 'quitters' had gained significantly more weight after both 3 years (2.84 versus 0.93 kg, \( P < 0.001 \)) and 6 years (4.46 versus 2.40 kg, \( P < 0.001 \)). Although FEV1 declined less in 'quitters' than in continuing smokers, this was statistically significant only for men and women aged less than 45 years. Smoking cessation was associated with smaller increases in cholesterol level in women, but not in men. Smoking cessation had no significant effect on changes in forced vital capacity or blood pressure.

**CONCLUSIONS:** Smoking cessation has different consequences for cardiovascular risk factors in men and women. Although giving up smoking is associated with weight gain in both men and women, the magnitude of the gain is larger in men. Smoking cessation has beneficial effects on lung function, especially in younger people, and on lipid levels in women, but this requires further study. Smoking cessation does not appear to influence blood pressure.