

Publication

Menopause is associated with accelerated lung function decline

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Menopause is associated with changes in sex hormones, which affect immunity, inflammation, and osteoporosis and may impair lung function. Lung function decline has not previously been investigated in relation to menopause.; To study whether lung function decline, assessed by FVC and FEV1, is accelerated in women who undergo menopause.; The population-based longitudinal European Community Respiratory Health Survey provided serum samples, spirometry, and questionnaire data about respiratory and reproductive health from three study waves (n = 1,438). We measured follicle-stimulating hormone and luteinizing hormone and added information on menstrual patterns to determine menopausal status using latent class analysis. Associations with lung function decline were investigated using linear mixed effects models, adjusting for age, height, weight, pack-years, current smoking, age at completed full-time education, spirometer, and including study center as random effect.; Menopausal status was associated with accelerated lung function decline. The adjusted mean FVC decline was increased by -10.2 ml/yr (95% confidence interval [CI], -13.1 to -7.2) in transitional women and -12.5 ml/yr (95% CI, -16.2 to -8.9) in post-menopausal women, compared with women menstruating regularly. The adjusted mean FEV1 decline increased by -3.8 ml/yr (95% CI, -6.3 to -2.9) in transitional women and -5.2 ml/yr (95% CI, -8.3 to -2.0) in post-menopausal women.; Lung function declined more rapidly among transitional and post-menopausal women, in particular for FVC, beyond the expected age change. Clinicians should be aware that respiratory health often deteriorates during reproductive aging.

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