

## Publication

## Lung function, respiratory symptoms, and the menopausal transition

**JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)****ID** 1196471**Author(s)** Real, Francisco Gómez; Svanes, Cecilie; Omenaas, Ernst Reidar; Antò, Josep Maria; Plana, Estel; Jarvis, Deborah; Janson, Christer; Neukirch, Françoise; Zemp, Elisabeth; Dratva, Julia; Wjst, Matthias; Svanes, Knut; Leynaert, Bénédicte; Sunyer, Jordi**Author(s) at UniBasel** [Zemp Stutz, Elisabeth](#) ; [Dratva, Julia](#) ;**Year** 2008**Title** Lung function, respiratory symptoms, and the menopausal transition**Journal** Journal of allergy and clinical immunology**Volume** 121**Number** 1**Pages / Article-Number** 72-80.e3**Keywords** menopause, lung function, asthma, allergy, body mass index, sex hormones, estrogens, follicle-stimulating hormone, hormone replacement therapy, European Community Respiratory Health Survey

**BACKGROUND:** There is limited information on potential changes in respiratory health when women enter the menopausal transition. **OBJECTIVE:** We sought to investigate whether the menopausal transition is related to lung function and asthma and whether body mass index (BMI) modifies associations. **METHODS:** Four thousand two hundred fifty-nine women from 21 centers (ECRHS II, 2002) responded to a questionnaire concerning women's health. Women aged 45 to 56 years not using exogenous sex hormones (n = 1274) were included in the present analysis. Lung function measurements (n = 1120) and serum markers of hormonal status (follicle-stimulating hormone, luteinizing hormone, and estradiol; n = 710) were available. Logistic and linear regression analyses were adjusted for BMI, age, years of education, smoking status, center, and height. **RESULTS:** Women not menstruating for the last 6 months (n = 432, 34%) had significantly lower FEV(1) values (-120 mL [95% CI, -177 to -63]), lower forced vital capacity values (-115 mL [95% CI, -181 to -50]), and more respiratory symptoms (odds ratio [OR], 1.82 [95% CI, 1.27-2.61]) than those menstruating regularly. Results were similar when restricting analyses to those who never smoked. Associations were significantly stronger in women with BMIs of less than 23 kg/m(2) (respiratory symptoms: OR, 4.07 [95% CI, 1.88-8.80]; FEV(1) adjusted difference: -166 [95% CI, -263 to -70]) than in women with BMIs of 23 to 28 kg/m(2) (respiratory symptoms: OR, 1.10 [95% CI, 0.61-1.97], P(interaction): .04; FEV(1) adjusted difference, -54 [95% CI, -151 to 43], P(interaction) = .06). **CONCLUSIONS:** Menopause is associated with lower lung function and more respiratory symptoms, especially among lean women.

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