

Publication**Determinants of change in airway reactivity over 11 years in a population study (SAPALDIA)****JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)****ID** 1022875**Author(s)** Curjuristic, I.; Zemp Stutz, E.; Dratva, J.; Ackermann-Liebrich, U.; Bridevaux, P. O.; Bettschart, R. W.; Brutsche, M.; Frey, M.; Gerbase, M. W.; Knöpfli, B.; Künzli, N.; Pons, M.; Schwartz, J.; Schindler, C.; Rochat, T.**Author(s) at UniBasel** [Curjuristic, Ivan](#) ; [Ackermann-Liebrich, Ursula A.](#) ; [Schindler, Christian](#) ; [Zemp Stutz, Elisabeth](#) ; [Dratva, Julia](#) ; [Künzli, Nino](#) ;**Year** 2011**Title** Determinants of change in airway reactivity over 11 years in a population study (SAPALDIA)**Journal** The European respiratory journal**Volume** 37**Number** 3**Pages / Article-Number** 492-500**Keywords** Adult, bronchial hyperreactivity, cohort studies, epidemiologic determinants, methacholine chloride, population**Mesh terms** Adult; Aged; Bronchial Provocation Tests, methods; Cohort Studies; Female; Humans; Hypersensitivity; Lung Diseases, pathology; Male; Methacholine Chloride; Middle Aged; Prevalence; Respiratory Hypersensitivity, pathology; Smoking; Spirometry, methods; Surveys and Questionnaires; Switzerland

We investigated determinants of change in bronchial reactivity in SAPALDIA, a population-based cohort with wide age range (29-72 years at follow-up). The role of sex, age, atopic status, smoking and BMI on percent change in bronchial reactivity slope from baseline value was analysed in 3005 participants with methacholine tests in 1991 and 2002 and complete covariate data. Slope was defined as percentage decline in FEV1 from its maximal value per mumol methacholine. Bronchial hyper-reactivity prevalence fell from 14.3% to 12.5% during follow-up. Baseline age was non-linearly associated to change in reactivity slope: participants below age 50 years experienced a decline, those above an increase during follow-up. Atopy was not associated with change, but accentuated the age pattern (pinteraction=0.038). Smoking significantly increased slope by 21.2%, as did weight gain (2.7% increase per BMI unit). Compared to persistent smokers, quitters before baseline or during follow-up experienced a significant decrease in slope (-27.7% and -23.9%, respectively). Differing, but not statistically different age-relationships and effect sizes for smoking and BMI between sexes were found. Mean bronchial reactivity increases after age 50 years, possibly due to airway remodelling or ventilation perfusion disturbances related to cumulating lifetime exposures

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