

Supplemental Methods

Databases

Our database contained the following sources: The Multi-Generation Register provided information on family relationships for individuals born in Sweden after 1932 and corresponding information for immigrants who became citizens of Sweden before age 18 together with one or both parents; the Swedish Twin register, containing information on zygosity when known (1); the Swedish Hospital Discharge Register, containing all hospitalizations for Swedish inhabitants from 1964-2010; the Swedish Prescribed Drug Register, containing all prescriptions in Sweden picked up by patients from 2005 to 2009; the Outpatient Care Register, containing information from all outpatient clinics from 2001 to 2010; the Primary Health Care Register, containing outpatient primary care data on diagnoses and time for diagnoses 2001-2007 for 1 million patients from Stockholm and middle Sweden; the Swedish Crime Register including all convictions in lower court from 1973-2011; the Swedish Suspicion Register that including all individuals strongly suspected of crime from 1998-2011; the Swedish Birth Register containing information on pregnancies leading to birth with information on smoking from 1981-2009; the Swedish Mortality Register, containing causes of death; the Military Conscription Register, including smoking habits from 2002 - 2008; The Population and Housing Censuses provided information on household and geographical status in 1960, 1965, 1970, 1975, 1980, and 1985 and the Total Population Register contained annual data on family and geographical status in 1990-2010.

Sample Sizes

Smoking status at first midwife assessment from the birth registry was available on 1,413,849 women with no prior history of NAP. 1,138,031 (80.5%) reported not smoking, of which 647 (0.06%) later were diagnosed with SZ and 3,540 (0.31%) with NAP, 181,136 (12.8%) reported smoking 1-9 cig/day of which 303 (0.17%) were diagnosed with SZ and 3,540 (0.31%) with NAP, and 94,682(6.7%) reported smoking more than 10 cig/day of which 296 (0.31%) were diagnosed with SZ, and 3,540 (0.31%) with NAP. Of the 1,416,238 not diagnoses with LC at first assessment 1,139,504 (80.5%) reported not smoking of which 421 (0.04%) later were diagnosed with LC. The corresponding figures for 1-9 cig/day and more than 10 cig/day were 181,562 (12.8%) and 95,172 (6.7%) of which 371 (0.20%) and 468 (0.49%) respectively were diagnosed with LC. Of the 1,415,717 without previous diagnose of COPD, 1,139,084 (80.5%) reported not smoking of which 2,610 (0.2%) later got the diagnosis. Corresponding figures for 1-9 cig/day and more than 10 cig/day were 181,491 (12.8%) and 95,142 (6.7%) of which 2,282 (1.3%) and 2,769 (2.9%) respectively later were diagnosed with COPD.

Diagnoses

Schizophrenia was defined in the Swedish Hospital Discharge Register by the following ICD codes: ICD8: 295.1, 295.2, 295.3, 295.5, 295.6; ICD9: 295B, 295C, 295D, 295G, 295X; and ICD10: F20.0, F20.1, F20.2, F20.3, F20.5, F20.8, and F20.9. Non-affective psychosis was defined according to the following ICD codes: ICD8: 295, 297, 298.2, 298.3, 298.9; ICD9: 295, 297, 298C, 298E, 298W, 298X; and ICD10: F2. Chronic obstructive pulmonary disease was defined by the following codes: ICD8-9:490-492 and 496; ICD-10 J40-44. For lung cancer, subsequent ICD editions were back-coded in our data base to be equivalent to the ICD-7 categories of 163 and 162.

DA was identified in the Swedish medical registries by ICD codes (ICD8: Drug dependence (304); ICD9: Drug psychoses (292) and Drug dependence (304); ICD10: Mental and behavioral disorders due to psychoactive substance use (F10-F19), except those due to alcohol (F10) or tobacco (F17)); in the Suspicion Register by codes 3070, 5010, 5011, and 5012, that reflect crimes related to DA; and in the Crime Register by references to laws covering narcotics (law 1968:64, paragraph 1, point 6) and drug-related driving offences (law 1951:649, paragraph 4, subsection 2 and paragraph 4A, subsection 2). DA was identified in individuals (excluding those suffering from cancer) in the Prescribed Drug Register who had retrieved (in average) more than four defined daily doses a day for 12 months from either of Hypnotics and Sedatives (Anatomical Therapeutic Chemical (ATC) Classification System N05C and N05BA) or Opioids (ATC: N02A).

Reference

1. Lichtenstein P, de Faire U, Floderus B, Svartengren M, Svedberg P, Pedersen NL. The Swedish Twin Registry: a unique resource for clinical, epidemiological and genetic studies. *Journal of Internal Medicine* 2002 Sep;252(3):184–205