Reusing claims data to assess parenthood as risk factor for myocardial infarction

Florian ENDEL\textsuperscript{a,1}, Simone SAUTER\textsuperscript{b}, Lorenz KOLLER\textsuperscript{b}, Alexander NIESSNER\textsuperscript{b}, and Georg DUFTSCHMID\textsuperscript{b}

\textit{a} University of Technology Vienna, Austria
\textit{b} Medical University of Vienna, Austria

\textbf{Keywords.} myocardial infarction, parents, Austria, risk factors

Earlier studies gave reason to assume that parenthood might be a risk factor for cardiac infarctions. Especially parents of children under 18 years seem to have an unfavourable cardiovascular risk profile. This may be a result of neglecting a health-promoting lifestyle due to lack of time and a shifted focus in life, caused by parental responsibility.

We aim to analyse whether a correlation between parenthood and a higher risk for myocardial infarction can be found within Austrian social security claims data.

As our data source we will use a database of pseudonymized claims data provided by the Austrian social security institutions, covering almost the country’s entire population of about 8 million inhabitants from the years 2006 and 2007. Due to missing genealogical information in the database, family relations will have to be estimated via co-insurance of dependents. Co-insured children and spouses will be distinguished based on their age in relation to the insured person’s age. To avoid false assignment to the childless control group (a child may be co-insured by only one of the two parents and thus the other may seem to be childless), we will focus on co-insured couples only. Using a cohort study design, couples where one spouse co-insures the other spouse and one or more children will form the exposed group. Couples where one spouse co-insures the other spouse but no co-insured child is documented will form the control group. As outcome of our study we will focus on a primary diagnosis of myocardial infarction (ICD10 codes I21 and I22 with subcodes) between 2006 and 2007. Patients will be stratified according to age, gender, place of residence and socio-economic status.

Within a first preliminary examination we identified 192,280 couples (aged 30 to 70 years), where one spouse co-insured the other and at least one co-insured child was documented (exposed group). As control group we found 175,080 couples, where one spouse co-insured the other and no children were documented. A preliminary analysis based only on age stratification seems to indicate that the exposed group had lower ratios of myocardial infarction in lower age groups. Starting with age group “45 to 49 years”, this effect is inverted and the exposed group seems to have constantly higher ratios of myocardial infarction in the higher age groups. As our next step we will examine whether these results can be confirmed when considering further confounders and how the limitations of our data can be assessed.

\textsuperscript{1} Corresponding Author.