Socio-economic differences in life expectancy among persons with diabetes mellitus or myocardial infarction: results from the German MONICA/KORA study.

BACKGROUND: Differences in life expectancy (LE) between social groups in a specific country are a fundamental measure of health inequalities within that country. Constant monitoring of these differences provides important information on the population's general health. The purpose of the present study is to explore and quantify the socio-economic differences in LE in Germany, focusing on a topic rarely assessed in other studies, the dependency of these LE differences on the presence of myocardial infarction or diabetes mellitus.

METHODS: The dataset consists of 13,427 participants (6,725 men, 6,702 women) aged 25-74 years, recruited in the region of Augsburg in Germany through three independent cross-sectional representative surveys conducted in 1984/85, 1989/90, 1994/95, with a mortality follow up in 1998 and 2002. We use a parametric model for the survival function based on the Weibull distribution, in which the hazard function is described in terms of two parameters. We estimate these parameters with a maximum likelihood method that takes into account censoring and data truncation.

RESULTS: The difference in LE between the lowest and the highest socio-economic group is estimated to be 3.79 years for men and 4.10 years for women. Diabetes mellitus reduces LE of men from the upper three
income quartiles by 4.88 years, and LE of men belonging to the lowest income quartile by 7.97 years. For women, the corresponding figures are 5.79 and 5.72 years. Myocardial infarction reduces LE of men and women from the upper three income quartiles by 3.65 and 3.75 years, respectively, and LE of men and women belonging to the lowest income quartile by 5.11 and 10.95 years, respectively.

CONCLUSIONS: This study shows that in Germany the differences in LE by socio-economic status are comparable to those found in other European countries, and that these differences seem to increase when diabetes mellitus or myocardial infarction is present. The statistical method used allows estimates of LE with relatively small datasets.