Patterns of Multimorbidity in the Aged Population. Results from the KORA-Age Study.

Multimorbidity is a common problem in aged populations with a wide range of individual and societal consequences. The objective of the study was to explore patterns of comorbidity and multimorbidity in an elderly population using different analytical approaches. Data were gathered from the population-based KORA-Age project, which included 4,127 persons aged 65-94 years living in the city of Augsburg and its two surrounding counties in Southern Germany. Information on the presence of 13 chronic conditions was collected in a standardized telephone interview and a self-administered questionnaire. Patterns of comorbidity and multimorbidity were analyzed using prevalence figures, logistic regression models and exploratory tetrachoric factor analysis. The prevalence of multimorbidity (≥2 diseases) was 58.6% in the total sample. Hypertension and diabetes (Odds Ratio [OR] 2.95, 99.58% confidence interval [CI] [2.19-3.96]), as well as hypertension and stroke (OR 2.00, 99.58% CI [1.26-3.16]) most often occurred in combination. This association was independent of age, sex and the presence of other conditions. Using factor analysis, we identified four patterns of multimorbidity: the first pattern includes cardiovascular and metabolic diseases, the second includes joint, liver, lung and eye diseases, the third covers mental and neurologic...
diseases and the fourth pattern includes gastrointestinal diseases and cancer. 44% of the persons were assigned to at least one of the four multimorbidity patterns; 14% could be assigned to both the cardiovascular/metabolic and the joint/liver/lung/eye pattern. Further common pairs were the mental/neurologic pattern combined with the cardiovascular/metabolic pattern (7.2%) or the joint/liver/lung/eye pattern (5.3%), respectively. Our results confirmed the existence of co-occurrence of certain diseases in elderly persons, which is not caused by chance. Some of the identified patterns of multimorbidity and their overlap may indicate common underlying pathological mechanisms.