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22 – Determinants of Multimorbidity

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Introduction

Multimorbidity, often defined as the co-occurrence of two or more (chronic) diseases within a patient, without an index disease being specified (1), is the rule rather than the exception in daily clinical practice. In Western countries the prevalence of multimorbidity in the general population ranges around 20-30% when the whole population was considered, and ranges between 55-98% when only older persons were included (2), with Asian studies showing similar results.

Risk Factors Associated for Multimorbidity

The main risk factor for multimorbidity seems to be age: in older populations the prevalence of the most common diseases, such as heart failure and dementia, is much higher than among younger patients, resulting in frequent co-occurrence of diseases. Multimorbidity is therefore often positioned as a condition of older patients. This is confirmed when looking at relative numbers, but increasingly it is recognized, that in absolute numbers the majority of patients suffering from multimorbidity is less than 65 years of age, with Barnett et al (3) reporting just over half of the people with multimorbidity to be 65 years of age or less.

Secondly, women and persons from low social classes consistently appeared to be more prone to multimorbidity across Western and Asian studies (2, 4). In a Brazilian study, Andrade et al (5) reported that somatic and mental disorders also frequently co-occur in a population sample of a developing country. The results suggest that substantial proportions of both chronic medical and psychiatric morbidities are not attributable to disorder-specific risks but rather to a few generic liability factors associated with many disorders, like lifestyle and distress. This supports the notion of general disease susceptibility (6).

Thirdly, ethnic, educational and cultural differences seem to play an important role: Black Americans had significantly higher initial levels of multimorbidity relative to white Americans in a national representative sample of US adults (7). The same study by Quinones et al. showed that higher education is associated with fewer reported diseases.

Methodological Influences on Prevalence Estimates

Already in the late 1990s it was recognized that many of the choices related to design of the study, definition and operationalisation of multimorbidity strongly influence the reported prevalence and incidence of multimorbidity (8). The influence of methodological decisions on the reported amount of multimorbidity is considerable. Starting with the various definitions of multimorbidity, where the minimum numbers

of diseases differ (two vs three or more chronic conditions), or where multimorbidity is defined as the simultaneous presence of diseases/symptoms, cognitive and physical functional limitations, or the unit of counting is organ systems instead of diseases. Furthermore, the number of conditions studied is of major importance for prevalence estimates: the higher the number, the higher the occurrence of multimorbidity.

Apart from a disease count there are a number of validated indices, such as the Charlson Index and the Cumulative Index Rating Scale. Although some indices cover only a limited number of diseases, they all aim to weigh the presumed impact according to illness burden. As chronic conditions widely differ in terms if severity and effects on survival and functioning, the mere number of chronic conditions do not necessarily have a major impact on outcomes. We can reasonably hypothesize that disease severity, disease duration and interactions between acute and chronic conditions are probably much more important than the mere count of chronic morbidities in increasing mortality risk. On the other hand, all studies agree on the fact that persons with multiple diseases have significant medical needs, which raises issues of resource allocation, equality and prioritization (2).

There is a serious distinction between data collection based on physician-diagnosed diseases (chart, paper files, EMR), administrative data, or patient self-reported diseases (questionnaires, interviews). The agreement between physician-diagnosed and patient-reported diseases is limited. Based on availability / feasibility, data choices made should be optimally adjusted to the research question.

In general, it can be stated that the more specialized the care setting the higher the prevalence of multimorbidity. Going from the general population to people in the waiting room in primary care, to a hospitalized population, the prevalence of multimorbidity is likely to increase gradually.

Future Research

It has been argued that future studies must begin to investigate multimorbidity across life course, to enable the distinction between real longitudinal changes and cohort effects. Furthermore, overlooking the field, knowledge on determinants of multimorbidity is still lacking for the greater part.

Key Points

Population prevalence of multimorbidity is 20-30%; with a sharp increase above 55 years; in absolute numbers of all patients with multimorbidity, more than half are over 65 years of age.

Older age, female sex and lower level of education are apparent determinants of multimorbidity.

Different definitions of multimorbidity and other methodological decisions have an influence on the reported multimorbidity.

Take Home Messages

- Population prevalence of multimorbidity is 20-30%; with a sharp increase above 55 years; in absolute numbers of all patients with multimorbidity more than half are older than 65 years.
- Older age, female sex and lower level of education are apparent determinants of multimorbidity.
- Different definitions of multimorbidity and other methodological decisions have an influence on the reported multimorbidity.

Original Abstract

http://www.woncaeurope.org/content/determinants-multi-morbidity

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