

Classification of Causes of Death for the Japanese Mortality Database and Its Application to Mortality Analysis

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In this study, we propose a new list for the classification of causes of death for the Japanese Mortality Database (JMD), based on the existing classification in Japan while adding modifications related to international comparability. We also apply the list to mortality analysis, such as long-term observation with age-standardized death rates.

We construct a new list for classification that is consistent with both the condensed list used in the vital statistics in Japan and the intermediate list used in the Human Cause-of-Death Database (HCD) project, and we propose it as the list for the JMD. The list is then used for the observation of age-standardized death rates, international comparison, and analysis of the Japanese mortality level in 2020.

The results of this study show that the use of the classification and the exposure-to-risk in the JMD enables the long-term and continuous observation of age-standardized death rates, which is considered important in demography. This leads to consideration that the JMD could serve not only as a database of life tables but also as a kind of comprehensive system for mortality analysis if we incorporate causes of death series into the JMD.

We also show that the JMD classification makes it possible to perform international comparison of the trends in causes of deaths with countries contained in the HCD. However, we should note that redistribution of the number of deaths by ill-defined causes conducted in the HCD may not be appropriate when the number of deaths from senility and/or unknown causes is increasing due to the growing number of the very old, as in France and Japan.

In addition, we present an example of the application of the JMD classification to the analysis of Japanese mortality levels in 2020. The results show that the actual levels of age-standardized death rates and life expectancy are lower than the expected levels based on the recent trends due to a decline in mortality rates for pneumonia.

We believe that this study indicates the usefulness of the JMD classification, which has high applicability to various kinds of mortality studies.

keywords: classification of cause of deaths, age-standardized death rates, life expectancy, mortality analysis