Short Communication

Adverse Health Experience in Male Workers during the Boom Economy in Japan

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The existence of different mortality rate gradients for the various occupational groups is well known. In general, higher grade employees have lower mortality rates, but such a gradient could be influenced by their socio-economic status. We selected eight male occupational groups (farmers, foresters and fishermen; craftsmen, production process workers and other laborers including mining workers since 1990; sales workers; transportation and communication workers; service, sport and recreation workers; clerical workers; professional technical workers and artists; administrators and managers) for whom age-specific mortality rates are available from reports of vital statistics on occupational and industrial aspects issued by the Ministry of Health and Welfare, Japan, and age-adjusted mortality rates were calculated based on the 1985 population as the reference group.

Changes and differences in age-adjusted mortality rates between the Japanese male occupational groups were reviewed over three recent decades (Figure). In contrast to a declining trend in mortality rates since 1965, in 1990 (end of the boom economy period) transportation and communication workers had the worst position for the mortality rate with a more marked divergence (150.4% increase compared to 1985) than the other seven groups. Percentage changes in mortality rates for other seven occupational groups showed an increase of 0.3% to 39.6% between 1985 and 1990 (Table), and there were larger differences between the occupational groups than in the past. Changes in Tokyo stock prices and freight transport volumes, obtained from the related white books, were also superimposed in the Figure. In parallel to the steep increase in stock prices recorded in Tokyo between 1985 and 1990, freight transport volume also increased in a similar pattern.

Changes in major specific causes of mortality rates, including cerebrovascular diseases (ICD9 code, 430–438), ischemic heart disease (ICD9 code, 410–414), stomach cancer (ICD9 code, 151) and lung cancer (ICD9 code, 163) were similar to those for all causes (Table). Male transportation and communication workers among whom transportation workers occupied a major part from the 70s’s in 1965 to the 90’s in 1995 showed the biggest increase, and the worst mortality rates for the four major causes, respectively. Although there was no big change in the number of male transportation workers, from 2.18 in 1980 to 2.15 million in 1990, the freight transport volume had been steadily increasing, which suggests a higher workload in this group of workers. Adverse health experience associated with a higher workload has been already discussed in various reports1, 2). Adverse health experience has been associated with high demand and low control at work3), meanwhile the boom economy period in Japan coincided especially with the worsening in mortality rates in the transportation and communication workers with longer overtime working hours as already pointed out in the white paper on labor (1991, Japan).

Many reports have pointed out that the socio-economic status is associated with the individual’s health. For instance, the relationship between economic fortune and life expectancy has been confirmed. Life expectancy generally becomes longer with improvements in the economy4). Concerning life expectancy, Japan has been one of the most favorable countries for long life in recent years, but such a rapid socio-economic change in the latest boom economy period in Japan indicates that the generalization mentioned above is not necessarily true.

In general, the population showed an improvement in age-adjusted mortality rates due to all causes and achieved a better life expectancy from 1965 to 1995, but it should be noted that some sub-groups experienced adverse experience on health.

The number of cerebrovascular or ischemic heart disease cases officially recognized due to work overload was rather stable during the boom economy period5). Eighteen cerebrovascular and three ischemic heart disease cases were officially recognized in 1987 when data first became available, and the total number was almost the same till 1994. But in 1995 when the range for recognizing cases was expanded because of changes in rules, 43 and 33 cases, respectively, were officially recognized, though the numbers gradually decreased afterwards6).

In conclusion, although our findings were based on an ecological observation, we showed that Japan’s boom economy period, which coincided with a reduction in unemployment, should be recalled as one with adverse general health experience in all working people since all occupational groups achieved worse mortality rates from
each of the major specific causes in 1990. Furthermore, these findings would remind us that distribution in health status is rather important compared with one for the whole population as Wilkinson\(^6\) has already pointed out in the example of income distribution in population versus overall wealth for a healthy society.

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**References**