This year, 2011, marks the 61st anniversary of Sir Doll’s landmark report on the association between smoking and lung cancer, demonstrated in a case–control study, and the 30th year since Dr Hirayama reported for the first time in the world the association between passive smoking and lung cancer. These 2 great epidemiologists, who faced harsh public criticism at the time of their groundbreaking observations, continued during their lives to produce scientific evidence on the health hazards posed by tobacco smoke. Despite the enduring global effort, smoking remains the greatest single cause of early death even in the beginning of 21st century. In Japan, the most recent statistics of smoking prevalence among male adults is 38%, and the prevalence among men aged 30–40 years reaches nearly 50%. The population burden of diseases posed by smoking is huge. Approximately 120,000–130,000 people die from active smoking every year, 25% and 50% of which are accounted for by cardiovascular diseases in males and females, respectively. As for deaths caused by passive smoking, lung cancer and ischemic heart disease alone account for an estimated 6,800 deaths annually.

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Although the effects of smoking on pulmonary health (ie, as a cause of lung cancer) are widely known to the general public, awareness of tobacco’s impact on cardiovascular diseases remains low. According to the national health and nutrition survey conducted in Japan in 2010, lung cancer was recognized by 88% of respondents as a disease for which smoking contributes to susceptibility, whereas the role of tobacco in heart disease and stroke was recognized by only 51%. The background for this lack of awareness may be attributable to insufficient accumulation of epidemiologic studies on the association between smoking and cardiovascular diseases conducted in the Japanese population. The report prepared by the International Agency for Research on Cancer (IARC) in 2007 on the scientific findings regarding risk reduction by smoking cessation included only one study conducted in the Japanese population for the evaluation of cardiovascular diseases.

In this issue of the Journal, Kondo et al present their efforts to close this gap. They followed a cohort of 25,000 male workers for 7.5 years to demonstrate that smoking increased cardiovascular disease events and the risk of all-cause mortality. These increased risks were statistically significant not only in heavy but also in moderate smokers, and the same held for both myocardial infarction and stroke. It is particularly noteworthy that these risks were shown to be reduced 4 years after smoking cessation. This result is consistent with the IARC report stating that the risk of developing cardiovascular diseases can be reduced by 2–4 years of smoking cessation. The article by Kondo et al may become not only an important piece of evidence on the association between smoking and cardiovascular diseases in the Japanese population, but also contribute to future international assessments of the effects of smoking on human health.

Another notable feature of the article by Kondo et al is that the study population was relatively young, with an age range of 20–61 years. As noted earlier, the smoking prevalence among men aged 30–40 years is still high in Japan. Lung cancer, which is widely known to be caused by smoking, does not develop in many cases until later in life, thus the younger generation has difficulty realistically perceiving the risk of lung cancer. It takes 5–9 years to reduce lung cancer risk after smoking cessation, and the risk will not be reduced to that of non-smokers even after a long period of smoking cessation.

By contrast, Kondo et al demonstrated that 4 years of smoking cessation can reduce health risks in people as young as 35–40 years of age. Thus, their results hold great potential for leading the younger generation to more realistic recognition of the risk of smoking and the benefit of smoking cessation.

The work by Kondo et al should not be confined to an academic context. Contemporary epidemiology is more than science. It is also required to be a tool for applying the science to health improvement at the population level. Although more than 60 years have passed since the achievement of Sir Doll and more than a quarter of a century since the insight of Dr Hirayama, approximately half of young male adults in Japan are still smoking. This indicates that the epidemiology of smoking has not yet fulfilled its contemporary role for improving public health. Countries advanced in tobacco control have succeeded in shifting the objective of the epidemiology of smoking from scientific discovery to policy assessment. In those countries, a wealth of evidence has been accumulating regarding not only the effects of smoking on health but also the effectiveness of tobacco control policies, such as raising the price of tobacco and banning smoking in public and working places. In Japan, however, although the scientific findings on the health risks of tobacco have been accumulated, those findings have not been sufficiently translated into public health...
policies as yet. It is hoped that the findings of Kondo et al, as presented here, will be translated into public health practices, which in turn will lead to a reduction in the health burden caused by smoking on the Japanese population.

References