"Heaso Cheonsik" and Chronic Obstructive Pulmonary Disease in Korea

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Chronic obstructive pulmonary disease (COPD) is an important, and increasing, cause of disability and death around the world (1–3). Despite being a major disease, it still is often not identified by name in most developed countries. For example, in the United States the estimate of prevalent cases of COPD is made by asking people about chronic bronchitis or emphysema (4). Cultural and societal differences can also influence the perceived prevalence of a disease. In Korea, COPD is not a well known term by the public or the medical community (5). The term "haeso cheonsik," which means "cough and dyspnea," is much more familiar to
the Korean population (5). Haeso cheonisk, which could mean COPD, asthma, heart failure, or a variety of other diseases, is thought to be part of the "normal" aging process and is frequently accepted, without medical consultation, as part of growing old (5).

In the current issue of the Journal (pp. 842–847), Kim and colleagues report on the prevalence of COPD in Korea using data from the 2nd Korean National Health and Nutritional Examination Survey, which had adequate spirometry from 9,243 of the 9,281 subjects (45.1% of the 9,243 subjects sampled) (6). They used a modification of the Global Initiative on Obstructive Lung Disease (GOLD) criteria to classify subjects (7). Bronchodilators were not administered, so all lung function measurements were "pre-bronchodilator," and their main criteria for the presence of COPD was an FEV1/FVC of less than 0.70, corresponding to GOLD Stage 1 or more severe COPD. Overall, they found that 7.8% of the studied population had GOLD Stage 1 or more severe COPD. This study demonstrates many of the challenges of measuring the burden of lung disease in a population, with both similarities and differences to those seen in other parts of the world.

Measuring lung function in populations is challenging because obtaining high-quality data depends on both qualified technicians and effort of the subject (8). In the study by Kim and coworkers, 835/4816 (17.3%) of subjects were excluded because they did not meet reproducibility criteria (6). This can be compared with data from the first National Health and Nutrition Examination Survey (NHANES I), in which 15.5% of the study subjects had spirometric measurements that were thought to be "reliable," but did not meet reproducibility criteria (9). In that study, 57.6% of subjects with GOLD Stage 3 or higher COPD did not meet reproducibility criteria, compared with 9.5% of normal subjects (9). Thus, the conservative approach of excluding subjects who do not meet reproducibility criteria, as was done in the study by Kim and colleagues, will disproportionately exclude subjects with lung disease and likely result in an underestimated in the burden of disease in the population.

An interesting finding in the study by Kim and coworkers is the male and female current-smoking prevalence of 60.6% among men and 5.2% among women (6). This pattern is a typical one for many Asian countries (5) but not for most Western countries, where rates among women and men are more similar (10, 11). Ominous in this finding, however, is emerging data that the prevalence of smoking is starting to increase among younger women in Korea and other Asian nations (5, 10).

Overall, Kim and colleagues found the prevalence of GOLD I or more severe COPD to be 7.8% (6). This value is lower than the 14.0% of adult participants in the NHANES III study who met similar criteria (12). The reasons for these differences are unclear, but may be related, in part, to the analytic approach taken, historical differences in smoking prevalence, or differences in genetic predisposition of the population. On the final point, for example, α1-antitrypsin deficiency is virtually non-existent in Korea (5). Remarkably similar between the study by Kim and colleagues and previous NHANES III analyses is the finding that a high proportion of subjects with evidence of COPD have not been diagnosed with disease. For example, in the study by Kim and coworkers, 36.4% of subjects with GOLD stage 3 or 4 COPD did not have a physician diagnosis of COPD (Table E3 in the online supplement to their article); this value was 44% in the NHANES III analysis (6, 12). As one would expect, the proportion of undiagnosed COPD was much higher among subjects with less severe disease.

Although it might be easy to assume that the underdiagnosis of COPD in Korea is related to the acceptance of haeso cheonisk as a normal part of growing old, a similar degree of underdiagnosis in the United States suggests that this problem may be common across cultures. The more widespread use of spirometry in at-risk populations, as advocated by the National Lung Health Education Program, offers the potential to diagnose COPD in its earlier stages and start treatment (13).

COPD is a growing cause of morbidity and mortality that crosses borders and cultures. The first step in dealing with any disease is to determine how common it is in the population and to target prevention strategies toward both decreasing risk factors for disease development and earlier detection of disease when it is more treatable. The study by Kim and colleagues will, hopefully, advance this process in Korea, and highlight the worldwide prevalence of this important disorder.

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