Response

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Prevalence of Dyslipidemia among Korean Adults: Korea National Health and Nutrition Survey 1998-2005 (*Diabetes Metab J* 2012;36:43-55)

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I deeply appreciate the comments of Dr. Bo Kyung Koo on our study "Prevalence of dyslipidemia among Korean adults: Korea National Health and Nutrition Survey 1998-2005" which was published in *Diabetes & Metabolism Journal* 2012;36:43-55. Metabolic syndrome is a cluster of multiple cardiometabolic risk factors, and prevalence of the syndrome is expected to increase in Korea [1,2]. However, as Dr. Koo noted, common definitions of metabolic syndrome do not include elevated low density lipoprotein cholesterol (LDL-C) level, which is strongly associated with atherosclerotic cardiovascular disease [3,4]. Dr. Koo also mentioned that evaluation of lipid abnormalities can provide additional predictive value compared to the presence of metabolic syndrome. This is an important comment and the reason why we reported prevalence of different forms of dyslipidemia including elevated total cholesterol, elevated triglycerides, elevated LDL-C, and reduced high density lipoprotein cholesterol (HDL-C).

Dr. Koo raised an epidemiologically and clinically relevant issue regarding the definition of low HDL-C level. In defining metabolic syndrome, the cutoff level of low HDL-C is frequently higher for women because women have a higher HDL-C distribution compared to men. According to the definition of metabolic syndrome in the NCEP-ATP III guidelines, reduced HDL-C level is defined as <50 mg/dL in women and <40 mg/dL in men [3]. However, the NCEP-ATP III criteria for reduced

HDL-C might not be appropriate for the Korean population. Compared to the Western population, East Asian populations have lower HDL-C level and show smaller sex differences for this measure. Moreover, HDL-C levels among Koreans are even lower than those of other East Asian populations and show only a small sex difference [5-8]. In our study, the sex difference in mean HDL-C (women minus men) was only 2.1 mg/dL in 1998, 3.6 mg/dL in 2001, and 5.0 mg/dL in 2005 [9]. Because Korean women have relatively low HDL-C levels, 58.5% of women had an HDL-C level lower than 50 mg/dL in the 2001 KNHANES [10]. This caused the unusually high prevalence of metabolic syndrome, in comparison to the low prevalence of obesity, among Korean women in the literature. We also lack direct data regarding the level of HDL-C that should be treated. It is unclear whether women with HDL-C level of 40 to 49 mg/dL but without other lipid abnormalities should be treated. For these reasons, some Asian studies have used a cutoff for reduced HDL-C of <40 mg/dL for both sexes [6,11].

Overall, I appreciate and agree with Dr. Koo's considerate comments. Great attention should be given to the working definitions when reporting and interpreting prevalence of metabolic syndrome and dyslipidemia. Further studies are also required to establish an appropriate definition of dyslipidemia in the Korean population.

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CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

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