

## Editorial



# Solvitur Ambulando: Importance of Exercise in Middle-Age for Cardiovascular Health

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As Korea rapidly enters an aged society, the prevalence of cardiovascular diseases continues to increase.<sup>1)</sup> Although the awareness rate and treatment rate of hypertension, hypercholesterolemia and even diabetes mellitus are increasing, the control rates of those chronic non-communicable diseases were stagnated mainly due to social ageing.<sup>2)</sup> Furthermore, the preventing strategy with a uniform approach to the entire population is reaching its limit. Therefore, it should be converted to a specialized approach according to social and education levels, sex and age groups. Recently, various studies have been reported to identify these social and education level, age and sex-specific problems in managing chronic non-communicable diseases such as hypertension.<sup>3)4)</sup>

Often, there are strategies that are ineffective due to lack of specific problem identification, although there is no doubt about rationale. Lifestyle modification is a typical example with limited efficacy because it covered too wide field but fail to indicate clear target. In order to achieve effective lifestyle modification, it is important to derive individual problems from each social and education level, age, and sex and to focus on correcting them accordingly. For specification of healthy lifestyle target, the American Heart Association has devised a cardiovascular health (CVH) metrics called the Life's Simple 7, which consists of tobacco use, physical activity, diet, body mass index, blood pressure, cholesterol, and glucose.<sup>5)</sup> The definition and scoring of each CVH metrics can be summarized in **Table 1**. Based on the composite of seven metrics, scores of 0–7, 8–11, or 12–14 points are regarded as having poor, intermediate, or ideal CVH, respectively. Although Korean Healthy Eating Index for adults was developed using the Korea National Health and Nutrition Examination Survey data,<sup>6)</sup> the objective measurement of the intake of food ingredients in real world practice is not always feasible due to the differences in food types and cooking methods. Therefore, in this issue, Cho et al.<sup>7)</sup> adopted drinking habits instead of eating habits, which is more easily and reliably estimated. Although drinking habit might never be a complete substitute for eating habits, this strategy could be a possible alternative when estimating eating habit is difficult.

If we accept this limitation, the study by Cho et al.<sup>7)</sup> reported important sex- and age-specific temporal trends in those key factors among Korean adults. Although it might be expected, it is surprising that between 2007 and 2018, the overall cardiovascular healthy lifestyle indicators have worsened among Korean adults. However, it is more important that this

**Table 1.** Definition and scoring of each cardiovascular health metrics (modified from Life's Simple 7)<sup>9,7)</sup>

Metrics	Poor (0 point)	Intermediate (1 point)	Ideal (2 point)
Cigarette smoking	Current smoker	Former smoker	Never smoker
Alcohol drinking*	≥3 drinks/week	1–2 drinks/week	Non-drinker
Healthy diet†	0–1 components	2–3 components	4–5 components
Physical activity	0 minute	More than 0 minutes but less than the recommendations	75+ minutes of vigorous activity or 150+ minutes of moderate-vigorous activity
Body mass index	≥25 kg/m <sup>2</sup>	23–25 kg/m <sup>2</sup>	<23 kg/m <sup>2</sup>
Blood pressure	≥140/90 mmHg	120–139/<90 mmHg	<120/80 mmHg (untreated)
Fasting plasma glucose	≥126 mg/dL	100–126 mg/dL or treated to goal	<100 (untreated)
Total cholesterol	≥240 mg/dL	200–240 mg/dL or treated to goal	<200 (untreated)

\*Alcohol drinking is not included in original Life's Simple 7. However, in the study by Cho, et al.,<sup>7)</sup> drinking habit is included as a substitute for meals that were difficult to quantify; †Healthy diet, defined 1) vegetables and fresh fruits, 2) fish, 3) nuts, and unsaturated fatty acids, 4) low consumption of red meat <1,500 mg sodium/day, and 5) consumption of low-fat dairy products.

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paper suggested the age- and sex- specific patterns of healthy lifestyle components. On the bright side, never smoking increased, largely contributed by young men. However, it was alarmed that the prevalence of current smoking, albeit low, slightly increased in middle-aged women. Most importantly, physical activity halved especially in middle-aged men and women. Also, the related changes including obesity and high glucose were increased. Also, the prevalence of ideal diet diseased in younger adults and middle-aged men. These lifestyle factors including diet, food, exercise and obesity are not independent but are common precursors of hypertension, dyslipidemia and diabetes mellitus.<sup>8-10)</sup> Although this report covered the data until 2018, there are concerns that continued social isolation by coronavirus disease 2019 (COVID-19) lockdown might aggravated those lifestyle disturbance including lack of exercise, obesity and bad food diet.<sup>11)</sup>

Solvitur ambulando is a Latin phrase which means "it is solved by walking" and is often used to refer to a problem which can be solved by a practical demonstration. This Latin maxim might excellently summarize the implication of this study. The first is that this study offer the key age- and sex-specific lifestyle factors which should be focused. These practical information can help the health-care providers design specialized approach thus utilizing limited resources effectively. The second is that exercise itself can be the most important components of healthy lifestyle to encourage especially in this COVID-19 era.

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