

## Editorial



# Health Promoting Life Style after Coronary Stenting: Underuse of Proven Therapy

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Cardiovascular mortality decreased dramatically in recent years. Remarkable progress has been made in cardiovascular medicine. The development and progress of myocardial revascularization therapy such as coronary artery bypass surgery and percutaneous coronary intervention (PCI) is another important contributing factor.<sup>1)</sup> PCI improves quality of life and, in the case of acute coronary syndromes, improving survival free from myocardial infarction, in the case of ST-elevated myocardial infarction, reducing mortality. However, a considerable number of patients experienced recurrence of cardiovascular events after PCI and were hospitalized, which resulted in the increase of overall medical expenses.<sup>2)</sup>

Previous studies have shown that health promotion lifestyle is associated with a significant reduction of recurrent cardiovascular events.<sup>3)</sup> In the Organization to Assess Strategies in Acute Ischemic Syndrome (OASIS) 5 study, smoking cessation was associated with 43% reduction of recurrent myocardial infarction, and regular exercise and diet modifications reduced the risk of recurrent myocardial infarction by 48%. In Japanese Coronary Artery Disease (JCAD) study, exercise intervention reduced mortality by 27% and diet intervention reduced mortality by 26%. Therefore, practical guidelines strongly recommend health lifestyle habits.<sup>4)5)</sup>

However, many patients neglected the value of diet and exercise to prevent recurrent events and to promote their health status after PCI. The Study of Patient Information after percutaneous Coronary Intervention (SPICI) study showed that among 1,073 patients underwent PCI, 67% perceived they were cured, and 38% perceived that they did not need to change their habits. So, 16% continued smoking, less than 50% exercise regularly. In addition, physician's attention is less optimal, and thus, the adherence to health life style after PCI in real world practice appeared to be lower than the recommended level.<sup>6)</sup>

Cardiac rehabilitation is a complex intervention involving health education, advice on cardiovascular risk reduction, physical activity and stress management. There is increasing evidence that cardiac rehabilitation leads to the reduction of mortality, morbidity, unplanned hospital admissions in addition to improvements in exercise capacity, quality of life and psychological well-being, and it is now recommended in practical guidelines.<sup>7)</sup> In Korea, cardiac rehabilitation had been implemented in the limited number of hospitals for last

decades. Due to experts and governments efforts, cardiac rehabilitation has been partially reimbursed by Health Insurance System in Korea since February 1st, 2017. Therefore, more patients may have opportunity to have exercise and education for maintaining their health through attending cardiac rehabilitation program. However, the participation rate of the cardiac rehabilitation program rate is still low, and more efforts are needed to develop better programs and to involve more patients. In addition, recent study revealed that the accessibility to rehabilitation center was major barrier to the participation of cardiac rehabilitation.<sup>8)</sup>

Recently, a new method of cardiac rehabilitation using mobile network has appeared. The Tobacco, Exercise and Diet Messages (TEXT ME) trial evaluated the effectiveness of a lifestyle-focused semipersonalized support program delivered by mobile phone text message on cardiovascular risk factors. Patients received 4 text messages per week for 6 months adding to usual care. Low-density lipoprotein cholesterol, systolic blood pressure, body mass index, and continuing smoking were significantly reduced and physical activity improved significantly at 6 months follow-up. Given the high penetration rate of mobile phone, even in old aged Korean, providing cardiac rehabilitation using mobile phones is expected to be an effective way for patients to lead a healthy life.

In this issue of the *Korean Circulation Journal*, Xiao et al.<sup>9)</sup> reported the status of health promoting life style after PCI in 120 Chinese patients using the Health Promoting Lifestyle Profiles II. On the basis of patient questionnaire including 52 items, health responsibility, physical activity, nutrition, spiritual growth, interpersonal relations and stress management were assessed. Most patients (74.2%) had moderate level of health promoting life-style. Among items, stress management and physical activity score was lower than other items. In addition, health promoting life-style was associated with higher income and stable angina presentation. Although this study was limited by the small number of patients, specific social environment, the lack of clinical outcomes data, this research has great value that it raises the attention about what we should consider, but what we often overlook.

In daily practice, primary prevention or therapeutic intervention has been at the forefront medical attention but second prevention after PCI should not be overlooked as an important improvement goal as well. Health promoting life style as well as the adherence to optimal medical treatment is prognostically important to prevent the recurrence of cardiac events after PCI. Physicians should make efforts to increase the uptake of “underused” proven therapy.

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