

Editorial

Lifestyle Modification Program, KOHNODAI Program

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Obesity is known to be associated with metabolic disorders, such as glucose intolerance, hypertension and dyslipidemia. Especially, metabolic abnormalities in obesity have been shown to be frequently associated with abdominal obesity [1-7]. In Japan, the number of metabolic disorders was greater than 1.0 at 100cm² of visceral fat area (VFA) and the best combination of the sensitivity and specificity for determining subjects with multiple risk factors was 100 cm² of VFA [8]. The regression line obtained from simple correlation analyses indicated that the waist circumference corresponding to 100cm² of VFA was 84.4cm in men and 92.5 cm in women [8]. Therefore, a waist circumference (≥ 90 cm for women and ≥ 85 cm for men) is defined as abdominal obesity in the Japanese diagnostic criteria for metabolic syndrome [8].

Our hospital, Kohnodai Hospital belongs to National Center for Global Health and Medicine (NCGM), Japan. The mission of NCGM is to provide the best general healthcare services to overcome diseases and improve health with the aim of contributing to society. Prevention of obesity-related metabolic abnormalities such as type 2 diabetes and the metabolic syndrome is an important mission for NCGM. Therefore, we created the program to support obese patients to change their lifestyle related with obesity, and named this program Kohnodai Hospital NCGM Obesity-related Diet and Physical Activity Improvement (KOHNDAL) program.

The summary of KOHNODAI program was shown in Table 1. This program is scheduled to be completed for 5 days, and start on Friday and finish on next Tuesday for a busy businessman. On Day 1, we perform a medical check-up to understand that obese patients can take diet therapy and exercise safely. We measure the markers of atherosclerosis, and also visceral and subcutaneous fat, which can motivate patients to participate actively in this program.

Physical therapists make an individual exercise program which depends on age, exercise capacity and endurance, cardiopulmonary function of each patient, and instructed patients to do exercise. Our diet therapy includes the small restriction of calorie intake [25 kcal/kg (ideal body weight) /day]. On Day 2 and Day 3, patients take diet therapy and exercise. On Day 4, we measure serum levels of aspartate aminotransferase, alanine aminotransferase, triglyceride, low-density lipoprotein-cholesterol and high-density lipoprotein-cholesterol, and fasting plasma glucose and HbA1c, to understand whether patients have non-alcoholic fatty liver diseases (NAFLD), dyslipidemia, the metabolic syndrome, impaired glucose tolerance and type 2 diabetes, or not. We also measure basal metabolic rate which influence on changes in body weight. In the afternoon of Day 4, patients receive the instruction of nutrition therapy by the registered dietitians individually. The contents of teaching depend on diseases which each patient have such as type 2 diabetes and hypertension. On Day 5, each patient reflects on KOHNODAI program and their lifestyle.

The KOHNODAI program has two characteristic contents. First, the patients measure and record body weight four times a day by themselves on Days 1-5, which make patients discover what increase or decrease their body weight, and how their body weight change. Secondly, patients and nurses discuss on their lifestyle for one hour on Days 1-5. Nurses make patients discover their problems and remedy, and encourage patients to modify their lifestyle.

We will mention the advantages of our program. First, the severity and complication (NAFLD, atherosclerosis, metabolic disorders) of obesity in patients can be evaluated within 5 days. Secondly, obese patients can learn diet therapy and exercise to lose body weight within 5 days. Thirdly, obese patients can discover their lifestyle related with

obesity by themselves.

Twenty nine obese patients with severe visceral obesity completed the KOHNODAI program. Most of participated patients lost body weight. We will report a full detail of effects of KOHNODAI program on metabolic parameters in the future.

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Conflict of interests

The authors declare that they have no competing interests.

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