

Cardiac Rehabilitation in Japan: Prevalence, Safety and Future Plans

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KOHZUKI: Cardiac Rehabilitation in Japan: Prevalence, Safety and Future Plans. *The rate of cardiac rehabilitation (CR) related incidents has been found to be exceedingly low. However, the outpatient phase II CR program does not appear to be widely used in Japan. The major reasons for not implementing CR are lack of staff, equipment and space, and the absence of approval for CR facility standards. Recently, there have been three attempts to increase the implementation rate of CR in Japan. First, Ministry of Health, Labor and Welfare in Japan started to relax restrictions on the approval for CR and to increase hospital charges for CR in 2006. Second, a 2-week hospitalized program for phase II CR has been established and demonstrated considerable improvement in the physical and psychological status in patients with myocardial infarction. Third, the phase III CR system in the ambulatory heart groups, MedEx Club was started last year. Furthermore, an additional challenge will be to select, develop, and provide attractive and appropriate rehabilitation programs and systems for individual cardiac patients; this includes tailoring the delivery method of these services. (J HK Coll Cardiol 2006;14:B43-B45)*

Heart, infarction, QOL, rehabilitation

摘要

人們發現心臟病復康治療的比率出乎尋常地低。然而，在日本門診病人II期心臟病復康治療計劃也沒有廣泛推廣。未能實現心臟病復康治療最主要的原因是由於員工、設備和場地的缺乏，以及心臟病復康人員資質認定的缺失。最近，有三項舉措旨在提高日本心臟病復康治療的比率。首先，衛生、勞工和福利部放寬對心臟病復康治療審批的限制，並提高2006年心臟病復康治療的住院費用。其次，建立為期兩周的住院期間的II期心臟病復康治療計劃，結果顯示對於心肌梗塞病人能夠改善生理和心理狀況。再次，去年III期心臟病復康治療已在非固定的心臟病病人團體和醫療俱樂部施行。除此之外，新的挑戰在於要選擇、發展和提供針對各個心臟病患者的具有吸引力、且恰當的復康治療方案和體系，還包括以上這些服務方式的改進。

關鍵詞：心臟 梗塞 生活質量 復康

The goal of cardiac rehabilitation (CR) is to ensure the best possible physical, psychological and social conditions for patients with chronic or post-acute cardiac disease so that they may, by their own efforts, preserve or resume their proper place in society.¹ This program usually consists of three stages: the acute stage (phase I), subacute stage (phase II) and maintenance

stage (phase III), which include exercise training, medical surveillance, emergency support, and psychological and vocational counseling. The period of hospitalization during phase I is becoming shorter as a result of recent advances in medical interventions and for economic reasons. Therefore, lifestyle modification, particularly in terms of daily exercise, cessation of smoking and a balanced food intake, should be acquired during phase II and maintained thereafter.

The rates of coronary events in CR settings have been exceedingly low. A survey of 167 supervised programs showed that the rate of cardiac arrest was 1 per 112,000 patient-hours and the rate of non-fatal myocardial infarction was 1 per 294,000 patient-hours; the mortality rate was 1 per 784,000 patient-hours.²

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Despite the recent inclusion in such programs of patients at increased risk of adverse events, such as patients with chronic heart failure, older patients, and heart-transplant recipients, the rate of adverse events has not increased appreciably.³ In a recent survey of 1,106 hospitals in Japan, the rate of CR related incidents was found to be exceedingly low.⁴

However, the outpatient Phase II CR program does not appear to be widely used. A recent study demonstrated that the participation rate of recovery phase II CR was 12% in the Japanese Circulation Society (JCS)-authorized cardiology-training hospitals (TH) and 5% in all the hospitals in Japan.⁵ In the United States, the participation rate of acute myocardial infarction (AMI) patients in phase II (usually outpatient-type) CR has been reported to be from 8.7% to nearly 50%.⁶ Therefore, it is clear that the patient participation rate in outpatient CR is markedly lower in Japan than in the U.S.A.

The major reasons for not implementing CR were lack of staff, equipments and space, and the absence of approval for CR facility standards.^{5,6} Ades et al⁷ reported that by multivariate analysis, the strength of the physician's recommendation for participation was the most powerful predictor of cardiac rehabilitation entry in patients after AMI or coronary bypass surgery. THs in Japan are usually large-sized, general hospitals which would be expected to have sufficient staff, equipment, and space. The majority of THs that had been approved for specific intensive care did not have approval for CR despite their ability to fulfill the CR facility standards. Thus, physicians' reluctance or lack of proper understanding in the use CR after AMI might be the reason for the low implementation rate of CR in Japan. Thus, urgent efforts should be made to increase the implementation rate of CR in Japan. To achieve this goal, it appears necessary to increase the number of hospitals approved for CR and to enhance physicians' understanding of CR after AMI.

In Japan, phase II CR has mainly been carried out on an outpatient basis as in USA and Europe. The outpatient phase II CR program is initiated within 2-3 weeks after hospital discharge, and patients have to visit local hospitals as outpatients 2 to 3 times per week for 3 to 6 months. However, it is difficult for patients to

visit hospitals several times a week and not all patients live close to hospitals. A recent survey⁸ has reported that there are 2,621 CR programs in the U.S.A. In contrast, according to the Japanese Association of Cardiac Rehabilitation, the number of hospitals approved for CR in Japan was only 186 in February 2005. The low patient participation rate in outpatient CR in whole Japan is in accordance with the low implementation rate of outpatient CR programs.

Recently, there have been three attempts to increase the implementation rate of CR in Japan. First, in Japan, the fee for CR after AMI is reimbursed by the health insurance system only to the hospitals approved for CR that fulfill the CR facility standards, requiring the attendance of a staff physician and the presence of a training room and an intensive care unit. According to the Japanese Association of Cardiac Rehabilitation, the number of hospitals approved for CR was only 186 hospitals in February 2005. In 2006, Ministry of Health, Labor and Welfare in Japan started to relax restrictions on the approval for CR and to increase hospital charges for CR.

Second, we designed a 2-week hospitalized program for phase II CR and demonstrated considerable improvement in the physical and psychological status in patients with MI.⁸ After participation in the program, the exercise tolerance, serum lipid profiles and STAI anxiety score of the patients were improved significantly. At the 6-month follow-up, these parameters remained improved and regular physical activity was maintained. The QOL score was also improved significantly. Even at the 12-month follow-up, the lipid profiles remained improved and regular physical activity was maintained.⁹ The intensive and self-monitored nature of the program might be a reason for our patients' high levels of motivation.⁹ In Japan, almost all people have to enroll in public health insurance and the insurance covers 70-80% of hospital charges such as operations and laboratory examinations. Moreover, many people also enroll in private insurance, which covers hospital charges and extra-charges for hospitalization.

Third, we started the Phase III CR system in the ambulatory heart groups, MedEx Club, so-called "Herzgruppe in Japan" in 2005. I am the head of the

Sendai Branch, one of five branches of MedEx Club in Japan, a multidisciplinary group which provides supervised exercise sessions and education for patients and also training classes for citizens and health professionals. Our goals are to promote regular physical activity, CR and prevent cardiac disease and the recurrence of coronary events. Exercise training classes are held in a facility in the neighborhood of the hospital, once a week under the guidance of an exercise rehabilitation trainer. Each session of 60 minutes has the capacity for 10 people. It starts with 15 minutes of warm-up, either sitting or standing. This is followed by 15 minutes of aerobic exercise and 15 minutes of resistance training using elastic bands. Each session ends with a cool down period of 15 minutes with stretching of the muscles. In addition to exercise, patients receive individual counseling about exercise training and recommendations for a home-walking-exercise program.

It is important to increase the number of CR-approved facilities, programs and the patient participation rate in outpatient CR in Japan. An additional challenge will be to select, develop, and provide attractive and appropriate rehabilitation programs and systems for individual cardiac patients; this includes tailoring the delivery method of these services.¹⁰

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