

How Can We Deliver Outpatient Cardiac Rehabilitation Services to All Low-Risk Patients in Iran?

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Dear Editor,

Cardiac rehabilitation (CR) is one of the most important ways to control and reduce complications after a cardiac event or process. However, in recent decades, development of CR programs has not been considerable in comparison with the progress made in the treatment of coronary heart diseases and cardiac intensive care (1). Hospital-based CR is recognized as the most common format, although CR can be delivered in several ways, such as multi-factorial individualized telehealth delivery, telehealth interventions focused on exercise and recovery, home-based CR, hybrid CR, internet- or web-based delivery, and programs specific to rural, remote, and culturally/linguistically diverse populations (2).

Today, one of the serious problems of traditional hospital-based CR programs in Iran is the patient's reluctance to participate in these programs. In fact, it is estimated that less than 15% of patients receive hospital-based CR (3). As a result, healthcare delivery systems try to replace hospital-based CR programs with alternative models in order to present more suitable options, which can meet the patients' needs and are in accordance with their risk-factor profile and preferences (2).

In recent years, in order to overcome the mentioned challenges, different models and approaches, including the health belief model (4), health action process approach (5), transtheoretical model of health behavior (6), self-regulatory model (7), and theory of planned behavior (8), have been able to identify some contributing factors and offer suitable solutions. Nevertheless, in practice, no significant changes have been made to promote the participation of patients, especially in Iran.

Despite identifying several obstacles, national studies have unanimously pointed to the long distance from CR program sites and high cost of therapy (9-11). In particular, the number of CR programs is limited in developing

countries including Iran, and the patients, besides the cost of treatment and transport, should spend a lot of time to access these centers (2). In addition, problems associated with increased physical fatigue and family, occupational, and economic challenges for the patient are usual.

On the other hand, considering the patient's age and physical condition, intercity trips necessitate the presence and companionship of a family caregiver. Also, transportation can cause serious disruptions in the social, occupational, and family function of the caregiver. Obviously, these barriers reduce the possibility of patient participation in CR programs. As the establishment of various promotional programs in the country has been unsuccessful so far, it seems that use of practical and updated methods is necessary for solving this problem.

In many developed countries, delivery formats have been regularly updated so that more patients can benefit from the services. One of the applied methods is the web- or Internet-based delivery format (2). Considering the rapid technological advances and the increasing use of social networks (such as telegram) by patients and their family members, we can use these programs with the purpose of patient education and monitoring. In addition, we can take an effective step to manage human resources in healthcare systems and avoid wasting financial resources and time of patients and their family caregivers.

In the Internet-based delivery format, audio and video clips are prepared, related to exercise training and management of cardiac risk factors, including stress control, healthy diet, blood pressure, sugar, and fat control, correct use of medications, and warning cardiac symptoms which require medical advice (1). Furthermore, proportional to the number of patients, some supervisors consider daily activities for the patients and carefully send them the educational files and clips of each meeting.

Even though the Internet-based delivery format is

faced with possible limitations such as lack of Internet access and the ability to use mobile phones, family members, who provide care for the patient, can play an effective role in eliminating these problems by downloading and playing the files for the patients. In addition, illiterate patients usually benefit from audio and video instructions and have no difficulty understanding or implementing the guidelines.

As suggested by previous reports, application of the hybrid CR delivery format requires only 38% of the total cost of common hospital-based CR programs (2); therefore, it is clear that the costs are dramatically reduced in the present format (use of social networks). In this method, after the preparation of training files by experts in the field, only a few trained and experienced supervisors monitor the performance of patients.

Management of long-distance meetings by supervisors eliminates the need to use the hospital's physical facilities. Consequently, patients are not required to pay large amounts of money for these services and are not faced with problems, caused by transportation and involvement of family members. Although the impact of alternative CR delivery models is not well-known in low- and medium-income countries such as Iran (2), we recommend the use of these methods for low-risk cardiac patients (e.g., myocardial infarction, coronary artery bypass grafting, and percutaneous coronary intervention patients). Perhaps, the proposed delivery format can practically increase the participation of Iranian patients in CR programs.

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