

## The Hypo-Utilization of Cardiac Rehabilitation among Patients Undergoing Percutaneous Coronary Intervention: The Critical Role of the Cardiac Nurse

Konstantinos Giakoumidakis\*

Cardiac Surgery ICU, "Evangelismos" General Hospital of Athens, Athens, Greece

\*Corresponding author: Konstantinos Giakoumidakis, 45-47 Ipsilantou street, 10646, Athens – Greece, 00306973793489, Fax: 00302132041987; E-mail: kongiakoumidakis@gmail.com

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### Editorial

Comprehensive cardiac rehabilitation (CR) programs are strongly recommended for patients undergoing percutaneous coronary intervention (PCI) for the long-term management of their chronic heart disease, while several scientific organizations have given the highest class I level of recommendation, based on the significant patient benefit [1,2]. Specifically, CR has been associated with significantly reduced morbidity and mortality rates and an improvement on patient ability to change lifestyle parameters, including smoking cessation, diet modification, alcohol consumption reduction, weight control and higher adherence to medical treatment [3-5]. Additionally, CR is not only clinically, but also cost effective [6].

Despite the proven benefit, PCI patient participation is low worldwide. According the British Heart Foundation, approximately, only the 30% of the eligible PCI patients participate in comprehensive CR programs in the United Kingdom [7] and the same percentage is derived from studies conducting in the USA and Canada [6].

There are many medical, demographic, social and psychological factors that contribute to low CR participation, including factors such as age, gender, geographical parameters, race and patient beliefs, and expectations and coping style [6]. However, the main barrier to CR participation is the hypo – referral of patients. According the findings of a previous large study, inpatient referral to CR was one of the strongest predictors of patient participation, increasing the probability of participation at approximately 6.14 times [8]. Additionally, during the period 2002-2007, only the 46-52% of the eligible patients participates in CR programs in Australia. The paradox of this low patient participation rate is associated with the fact that CR services are provided in public hospital free of cost [9]. Consequently, it seems that the main problem is not service provision and cost but the under-referral of patients to CR.

It has been shown that physician's recommendation to CR is a strong predictor of patient participation [8,10]. However, given that nurses are the professionals who have the highest participation as members of the multidisciplinary CR team [7], compared with the other members, and spend more time with patients [11] could play a critical role in increasing the active participation of PCI patients in comprehensive CR programs. The literature review reveals that CR endorsement from nurses should be included in strategies to increase participation, due to nurses are essential to deliver CR intervention,

encouraging patient adherence [12]. Patient education, by cardiac nurses, on the benefits of CR programs after PCI and their effectiveness for the secondary prevention of heart disease is the main independent nursing intervention, which could contribute to highest PCI patient participation.

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