



**UNIVERSITY OF WEST ATTICA  
SCHOOL OF HEALTH AND CARE SCIENCES  
DEPARTMENT OF PHYSIOTHERAPY**

## **SUMMARY OF DOCTORAL DISSERTATION**

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## **TITLE OF DOCTORAL DISSERTATION:**

Comparative Assessment of Cardiac Rehabilitation Programmes in patients post Transcatheter Aortic Valve Implantation (TAVI)

### **Abstract**

Transcatheter Aortic Valve Implantation - TAVI) is a modern and relatively recent invasive method treatment of patients with aortic valve stenosis, who have a contraindication for heart surgery of this valvular disease. TAVI takes place in the hemodynamic laboratory with mild anesthesia and implantation of the new valve, where a special catheter system is placed through the femur artery. After the operation, the hospitalization time is 3 to 5 days. The aortic valve stenosis is the most common valvular disease worldwide, with a prevalence of 2% in people aged 65 and over, 3% in people over 75 and 4% in people over 85 years, while mortality in the reported population amounts to 50%.

As the stenosis progresses, symptoms gradually appear, such as shortness of breath, angina, arrhythmias and fainting spells, which reduce the functional capacity and increase mortality. Futhermore, the Brain Natriouretic Peptide – BNP (the main biochemical indicator burden on left ventricular function, due to evolving aortic stenosis), increases gradually as the dimensions of the left increase abdomen. Therefore, aortic valve replacement is the only one selection, to alleviate the symptoms, to restore functional ability and extend survival expectancy. Also after conducting TAVI observed improvement of echocardiographic parameters (reduction dimensions and thickness and increase the left ventricular ejection fraction) and biochemical markers of cardiovascular function (fall in serum levels of the BNP)<sup>(6)</sup> and as a result improve the functional capacity and increase of survival.<sup>(6)</sup>

The implementation of cardiovascular rehabilitation programs in patients with TAVI, although it is very promising, is particularly limited to research level.

**Keywords:** Cardiac Rehabilitation, Cardiopulmonary Exercise Test, Telerehabilitation, Transcatheter Aortic Valve Implantation (TAVI)

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