

## CHAPTER 4

# SLEEP DEPRIVATION: ITS EFFECT ON THE CARDIOVASCULAR SYSTEM AND NURSING INTERVENTIONS TO IMPROVE SLEEP QUALITY

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### INTRODUCTION

Sleep is an integral part of life for both physiological and mental health. Changes in lifestyle such as shift work, frequent jetlag or lifestyle changes such as work and school lead to a disturbance in sleep patterns. This situation can cause a shift in circadian rhythms as a result of exposure to light contrary to the day / night cycle; It also increases the risk of developing diabetes, obesity and cardiovascular diseases, which are known as cardiometabolic diseases.

World Health Organization data show that 17.9 million people die each year from cardiovascular diseases such as coronary heart disease, myocardial infarction, sudden cardiac death and stroke, which constitute 31% of all deaths. These diseases rank first among the causes of death worldwide. While most of the deaths are in low- and middle-income countries, the cost of treatment is currently about \$ 863 billion and is estimated to rise to \$ 1044 billion by 2030.<sup>(1)</sup>

The Journal of the American College of Cardiology announced the number of people with cardiovascular disease as 422.7 million worldwide in 2015. In the treatment of these diseases, surgical methods such as coronary artery bypass graft, heart valve operations, aortic operations are used in addition to medical methods.<sup>(2)</sup>

Sleep deprivation can be seen in most patients before and after cardiac surgery operations. Studies show that sleep problems can be seen in approximately 39-69% of patients within the first month after heart surgery, and it is stated that this problem continues for up to 6 months after surgery in approximately 50% of patients.<sup>(3)</sup>

As can be understood from the numerical data, cardiovascular diseases are a global health problem with high morbidity and mortality rates and economic

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quality was found to be more effective in the patient group where foot reflexology massage and hot foot bath were applied in combination.<sup>(35)</sup>

## CONCLUSION AND RECOMMENDATIONS

In this review, the effect of sleep on the development of cardiovascular diseases and cardiac surgery was examined. Sleep deprivation; by stimulating the physiopathological mechanisms as a result of the circadian rhythm shift and stress response; It causes diseases such as hypertension, atherosclerosis, coronary artery disease, diabetes and obesity.

People with cardiovascular disease who have undergone cardiac surgery often experience sleep deprivation and poor sleep quality before and after surgery. Sleep deprivation affects the recovery process with post-surgery fatigue, sleepiness, longer hospital stay and poor quality of life, and increases the risk of complications. Examining the sleep of people before the surgery and eliminating sleep problems with appropriate interventions can reduce the risk of unwanted situations that may occur after surgery. In experimental studies, it has been found that ear plugs, eye masks, education of the patient and family, deep breathing exercises, aromatherapy, thermal foot application and reflexology methods are effective in improving sleep quality in people with cardiovascular disease and undergoing cardiac surgery. These methods, which have proven effects, are non-invasive, have no side effects and have low cost; It is thought that the inclusion of the nurses in the patient's care may improve the sleep quality of the patients.

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