Prevention decline in older cardiac surgery patients (PREDOCS) programme

**BACKGROUND**

Complications after cardiac surgery are common in older patients (65+ years) and are associated with: prolonged hospital stay, a reduced quality of life (QoL), and increased costs of healthcare. High prevalent complications after cardiac surgery in older patients are:

- delirium (11.9% - 43.1%)
- depression (15% - 18%)
- pressure ulcer (13% - 18%)
- infection (1.3% - 2.4%)

Frail older patients are more likely to experience postoperative complications than non-frail older patients.

**GOAL**

Preadmission optimization of older patients with the nursing PREDOCS consult in order to prevent them from experiencing postoperative complications.

The PREDOCS consult includes a comprehensive geriatric nursing approach aimed to prevent four frequently occurring postoperative complications in older cardiac surgery patients:

- delirium
- depression
- pressure ulcer
- infections

**METHOD**

Following the first stage of the model for developing, evaluating, and implementing complex interventions of the Medical Research Council, the PREDOCS programme was developed to prepare older patients for their hospital admission with cardiac surgery. Within this framework and in cooperation with the University of applied Sciences Utrecht, the University Medical Center Utrecht, the Isaal Hospital and the St. Antonius Hospital, five studies have been performed:

- a systematic review for effective preventive interventions
- an etiological study on links between preadmission patient characteristics and the occurrence of postoperative complications
- a prognostic study resulting in instruments for predicting the risk of occurrence of the four postoperative complications
- interviews among cardiac surgery patients about their needs before and during hospitalization
- a survey among nurses about their opinions on prevention, diagnosis and treatment of the four postoperative complications

These studies resulted in 5 international publications. In addition, the intervention was reviewed by four experts in the areas of delirium, depression, pressure ulcer, and infection, and anaesthesiology. It was also reviewed by six employees (doctors and nurses) in the hospitals participating in this multicenter study.

**RESULTS**

To improve the patients’ physical, social, and psychological condition in the preadmission period and thereby reduce the occurrence of delirium, depression, pressure ulcer, and infection after cardiac surgery, at preadmission the nursing PREDOCS consult is introduced. In February 2014 nurses at the cardiac thoracic ward at the St. Antonius Hospital in the Netherlands started to use this program for patients 70 years and older, four weeks before admission at the preadmission. The intervention is administered during a consultation by the nurse two to four weeks before the surgery procedure.

The intervention includes three parts (see figure):

1. a general part for all patients of 65 years and older, patients receive general advice regarding nutrition, social support, pain management, and the upcoming surgery
2. patients with an increased risk are identified. The patients’ risk to develop postoperative delirium, depression, pressure ulcer, and infection was calculated using scorecards
3. selected patients are informed about how to prepare themselves for the hospital admission to reduce their risk

**CONCLUSIONS**

The average time the nurses spent on the intervention is 20 minutes. This includes a social talk. For the nurses, the preadmission intervention is complete and concrete. There are tools for the preparation of the coming surgery for the patients. Moreover, patients and relatives appreciated the given advices. The preadmission intervention is complementory to usual care.