



Cyprus  
University of  
Technology

Faculty of Health  
Sciences

**Master's Thesis**

**THE EFFECT OF EDUCATION AND TELEMONTORING  
INTERVENTION ON ACUTE EVENTS OF PATIENTS  
WITH HEART FAILURE: SECONDARY ANALYSIS OF  
THE MEETinCY STUDY**

**Anna Alexandrou**

**Limassol, June 2020**



CYPRUS UNIVERSITY OF TECHNOLOGY

FACULTY OF HEALTH SCIENCES

DEPARTMENT OF NURSING

Master's Thesis

THE EFFECT OF EDUCATION AND TELEMONTORING  
INTERVENTION ON ACUTE EVENTS OF PATIENTS WITH  
HEART FAILURE: SECONDARY ANALYSIS OF THE  
MEETinCY STUDY

Anna Alexandrou

Limassol, June 2020

# Approval Form

Master's Thesis

## **THE EFFECT OF EDUCATION AND TELEMONITORING INTERVENTION ON ACUTE EVENTS OF PATIENTS WITH HEART FAILURE: SECONDARY ANALYSIS OF THE MEETinCY STUDY**

Presented by

Anna Alexandrou

Supervisor: Department of Nursing of the Cyprus University of Technology

**Ekaterini Lambrinou** Associate Professor, Department Chair

Signature \_\_\_\_\_

Member of the committee: Maria Kyranou/ Assistant Professor

Signature \_\_\_\_\_

Member of the committee: Maria Hadjibalassi/ Assistant Professor

Signature \_\_\_\_\_

Limassol, June 2020

## **Copyrights**

Copyright© 2020, Anna Alexandrou

All rights reserved.

The approval of the thesis by the Department of Nursing does not imply necessarily the approval by the Department of the views of the writer.

## **Acknowledgements**

I would first like to thank my thesis advisor Associate Professor, Department Chair Ekaterini Lambrinou of the Department of Nursing of the Cyprus University of Technology. The door to Prof. Lambrinou office was always open whenever I ran into a trouble spot or had a question about my research or writing. She consistently allowed this paper to be my own work but steered me in the right the direction whenever he thought I needed it.

We are grateful to all study researchers, to study nurses, and staff at the investigating sites that involved to our project and for their assistance in completing this study and all the project of MEETinCY.

Finally, I must express my very profound gratitude to my parents; to my friends and my colleagues for providing me with unfailing support and continuous encouragement throughout my years of study and through the process of researching and writing this thesis. This accomplishment would not have been possible without them. Thank you.

## **ABSTRACT**

### **Background**

Despite advances in the treatment of heart failure (HF), decompensated HF is characterized by high hospital readmissions and linked with increased morbidity and mortality. Early recognition of deterioration of the symptoms by the patients is vital for reducing acute events and hospital length of stay.

### **Aim**

This study aimed to determine the effectiveness of a nurse-led management program on the reduction of the number of visits to ER, unplanned readmissions and mortality of patients with HF due to acute events of decompensation at 90- and 180-days post-discharge. The secondary aim was to identify a possible association between demographic or clinical characteristics and the hazard for acute events.

### **Methods**

This study was designed as a multicenter single-blinded randomized clinical trial (RCT) with three different intervention groups (IGs) and one control group (CG) that received the usual care which did not include a structured educational program. It is part of the study MEETinCY and data were collected from the five big general hospitals of the country. The first IG received only education (EE) before discharge, the second IG received only telephone follow-up (TT) for 90 days after discharge, the third IG included a combination of education before discharge and telephone follow-up (ET) for 90 days months after discharge. The efficacy of interventions on mortality and rehospitalization rates were estimated using a Kaplan Meier analysis and were compared with log rank test. The association of demographic and clinical characteristics to the hazard for acute events was explored using a multivariate Cox regression. The significance testing was based on p value <0.05.

### **Results**

Two hundred and forty-two (242) patients completed the study [(CC) n=68, (EE) n=57, (ET) n=59, (TT) n=58]. Mean age of patients was 69.5 (SD = 11.5), 64% were male, with NYHA function I-IV but most patients (39.3%) were categorized in NYHA II. During the 90 and 180 days study periods, the intervention groups, although appearing to have a



"better survival experience" than the Control group, no statistically significant difference was found between the four groups for the periods 90 (log-rank test,  $\chi^2 = 3.7$   $p = 0.28$ ) and 180 (log rang  $\chi^2=2.87$ ,  $p=0.41$ ) days.

**Keywords:** Heart failure, readmissions, acute events, case management program, nurse-led