

**UNIVERSITI TEKNOLOGI MARA**

**‘PATIENT-EMPOWERMENT  
PROGRAMME’ AGAINST  
STANDARD CARE IN ADVANCED  
HEART FAILURE PATIENTS – A  
RANDOMISED CONTROLLED  
TRIAL**

**MOHD ZHAFRAN BIN ZAINAL ABIDIN**

**MMed**

**October 2017**

## **AUTHOR’S DECLARATION**

I declare that the work in this dissertation was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

Name of Student : Dr. Mohd Zhafran bin Zainal Abidin

Student I.D. No. : 2011171001

Programme : Masters in Internal Medicine – MD771

Faculty : Medicine

Thesis : “Patient-Empowerment Programme’ Against  
Standard Care In Advanced Heart Failure Patients - A  
Randomized Controlled Trial”

Signature of Student : .....

Date : October 2017

## ABSTRACT

**Introduction:** Progressive Muscle Relaxation Therapy (PMRT) and Energy conservation technique (ECT) has been used among chronic illness patients to reduce symptoms burden and improve quality of life. However, data regarding these therapies among advanced heart failure patients remain limited. This study aimed to evaluate the effects of PMRT and ECT on functional capacity, symptoms assessment scores and quality of life amongst advanced heart failure patients.

**Methods:** This was a 12-week, two-arm, parallel, non-blinded, randomized control trial in a single centre. The study compared 42 patients receiving standard care (SC) against 48 patients receiving “Patient-Empowerment Programme (PEP)” (SC+PMRT+ECT). 90 advanced heart failure patients were enrolled. The intervention group received two PEP reinforcement sessions four weeks apart. Patients were asked to implement the programme at least three times a week at home, using an audio-visual aid. Assessment tools comprised of questionnaires on demographics, 6-minute walking test (6MWT), New York Heart Association (NYHA) classifications, Revised version of the Edmonton Symptoms Assessment System (ESAS-r), Brief Fatigue Inventory (BFI), New York Heart Association (NYHA) Classification and McGill Quality-of-Life Questionnaire (MQOL-R) administered on recruitment and upon study completion.

**Result:** 76 (84.4%) were male. Mean age was 59.93 years (+ 11.16) and majority was from the lower income group. There was a 11.99m (95%CI: 5.99, 15.98) (p <0.05) improvement in the 6MWT between intervention and standard group. All symptoms showed improvement after intervention, however, only the depression and anxiety items were significant. There was improvement in the fatigue scale, functional status and quality of life in the intervention group however it is not statistically significant.

**Conclusion:** ECT and PMRT are useful in reducing depression and anxiety scores, and improve the 6MWT distance. A larger sample size and longer study duration should be conducted to validate this result

## **ACKNOWLEDGEMENT**

Alhamdulillah, I thank God for giving me the blessings and opportunity to complete this priceless and enriching journey of Master in Medicine (Internal Medicine). My highest and deepest gratitude goes to my supervisor Dr. Diana Katiman and my co-supervisors Dr Hafisyatul Aiza Zainal Abidin, Dr Mohamad Rodi Isa and Puan Husna Ahmad Ainuddin, who has inspired me and has provided me endless support, ideas, and assistance in every step of this project.

I would also like to express my gratitude to the occupational and physiotherapists in Pusat Perubatan Pakar UiTM (PPPUiTM) Sungai Buloh, with special thanks to Miss Hanisah Mahmood, Miss Syafiqah Othman, Miss Yanti Ahmad Safie and Muhammad Faris Bin Aminuddin. They have been more than willing to provide me the support and knowledge needed for this project.

My humble appreciation also goes to all the nurses in Heart Failure Clinic of the PPPUiTM who have provided me the facilities and assistance during my data collection. Without the collaboration from these individuals, the project would not have been a success and finished on time.

I have always believed that striving and working together equates to success. Therefore, my sincerest gratitude goes to all my friends and colleagues of Master in Medicine (Internal Medicine) who have provided me help in every way possible to ensure the success of this project.

Last but not least, I would like to express my love and greatest appreciation to both my parents and my family. They have never given up on praying for my success and have given me endless support through any way possible to ensure that I progress through. This piece of work is not only a victory to myself but also specially dedicated to all of you.

# TABLE OF CONTENT

	<b>Page</b>
<b>CONFIRMATION BY PANEL OF EXAMINERS</b>	<b>ii</b>
<b>AUTHOR'S DECLARATION</b>	<b>iii</b>
<b>ABSTRACT</b>	<b>iv</b>
<b>ACKNOWLEDGEMENT</b>	<b>vi</b>
<b>TABLE OF CONTENT</b>	<b>vii</b>
<b>LIST OF TABLES</b>	<b>xii</b>
<b>LIST OF FIGURES</b>	<b>xiv</b>
<b>LIST OF SYMBOLS AND ABBREVIATIONS</b>	<b>xv</b>
<b>CHAPTER ONE INTRODUCTION</b>	<b>1</b>
1.1 Research Background	1
1.2 Definition of Terms	5
1.2.1 Advanced Heart Failure	5
1.2.2 Advanced Heart Failure Standard Care	8
1.3 Objectives	8
1.4 Hypothesis	8
1.4.1 Alternative Hypothesis	8
1.4.2 Null Hypothesis	9
<b>CHAPTER TWO LITERATURE REVIEW</b>	<b>10</b>
2.1 Definitions and Classification of Heart Failure	10
2.2 Aetiology of Heart Failure	10
2.3 Diagnosis of Heart Failure	11
2.4 Standard Care in Advanced Heart Failure	15
2.4.1 Non-Pharmacological Measures	15
2.4.2 Pharmacological Management	16
2.4.3 Devices Therapy in Heart Failure	18