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2012년 2월
석사학위 논문

**Symptoms, Self-care Compliance and
Health related Quality of Life in Post
Acute Myocardial Infarction Patients
with Left Ventricular Dysfunction**

조선대학교 대학원

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김 하 미

Symptoms, Self-care Compliance and Health related Quality of Life in Post Acute Myocardial Infarction Patients with Left Ventricular Dysfunction

급성심근경색증 후 좌심실 기능장애를 가진 환자의 증상,
자가관리이행 및 삶의 질

2012 년 2 월 24 일

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CONTENTS

ABSTRACT.....	VII
I . INTRODUCTION.....	1
A. Background.....	1
B. Purpose.....	3
II. METHODS.....	4
A. Study Design.....	4
B. Samples.....	4
C. Measurements.....	5
1. Symptoms.....	5
2. Self-care Compliance.....	5
3. Health related Quality of Life.....	6
4. Demographic and Clinical Characteristics.....	6
a. New York Heart Association Functional Classification.....	7
D. Data Collection.....	7
E. Data Analysis.....	7
III. RESULTS.....	9
A. Demographic and Clinical Characteristics of the Subjects.....	9

B. Levels of HF Symptoms, Self-care Compliance and HRQoL	9
C. Differences in Symptoms, Self-care Compliance and HRQoL by Demographic and Clinical Characteristics	10
D. Correlations among Symptoms, Self-care Compliance and HRQoL	10
E. Predicting Factors on HRQoL	10
IV. DISCUSSION	12
A. Study Limitations	14
B. Implications for Future Research	14
V. CONCLUSIONS	15
REFERENCES	16
LIST OF TABLE	20
APENDIXES	28

TABLE CONTENTS

Table1. Demographic Characteristics.....	20
Table2. Clinical Characteristics.....	21
Table3. Levels of Symptoms, Self-care Compliance and HRQoL.....	22
Table4. Experienced 13 HF Symptoms of Post AMI Patients.....	23
Table5. Differences in Symptoms, Self-care Compliance and HRQoL by NYHA Functional Classification.....	24
Table6. Differences in Symptoms, Self-care Compliance and HRQoL by Demographic and Clinical Characteristics.....	25
Table7. Correlation Coefficients among Symptoms, Self-care Compliance, and HRQoL.....	26
Table8. Predicting Factors on HRQoL	27

국 문 초 록

급성심근경색증 후 좌심실 기능장애를 가진 환자의 증상, 자가관리이행 및 삶의 질

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연구 배경: 우리나라에서 고령화에 따른 급성심근경색증의 유병률 증가 및 치료기술의 발전으로 심근경색증 후 장기경과를 보이는 환자의 수가 늘어남에 따라 심부전으로의 이행 환자의 수도 증가할 전망이다. 심부전 이행 단계의 환자들에서 심부전 증상과 삶의 질을 조사해보는 것은 심장기능의 악화 방지를 위한 예방적 간호중재의 개발에 도움이 될 수 있을 것이다. **연구 목적:** 본 연구는 과거 급성심근경색증으로 관상동맥중재술을 받고 외래에서 추후관리 중인 좌심실 구혈률이 50% 미만인 환자들 중에서 심부전 증상과 자가관리이행 및 삶의 질 정도와 상관관계를 파악하고, 낮은 삶의 질에 영향을 미치는 독립적 요인을 확인하기 위함이다. **연구 방법:** G 시 소재 일 국립대학병원에서 급성심근경색증으로 관상동맥중재술을 받고 최소 1 년 이상 추후관리 중인 환자들 중에서 최근 follow-up 심초음파 상 좌심실 구혈률이 50% 미만인 환자들을 표적 모집단으로 하였다. 2011 년 7 월에서 11 월 사이에 순환기내과 외래 방문자 중에서 본 연구참여에 동의한 105 명의 환자들을 편의표집 하였다. 설문도구는 심부전 증상, 급성심근경색증 후 자가관리 이행, 그리고 건강관련 삶의 질을 측정하는 자가 보고형의 구조화된 설문지를 이용하였으며, 본 연구자가 일대일 면담을 통하여 자료수집을 하였다. **연구 결과:** 최근에 측정한 대상자의 평균 좌심실구혈률은 $40.75 \pm 8.34\%$ 이었고 첫 번째 심근경색증 발병 후 최근 외래 방문까지의 평균 기간은 52.19 ± 28.8 개월 (range 21-171)이었다. 대상자들의 35.0%가 New York Heart Association (NYHA) Functional classification III 와 IV

단계에 속하였으며, 13 가지 증상 중에서 평균 4.71 ± 2.92 개가 보고 되었다. 증상과 삶의 질은 유의한 상관관계가 있었으나 자가관리이행과 삶의 질은 상관관계가 없었다. 단변량 분석에서 삶의 질과 관련이 있었던 NYHA Functional Classification, 성별, 교육수준, 월수입, 직업유무 및 증상을 단계적 회귀분석에 투입하여 분석한 결과 증상의 수가 많은 경우, 소득수준이 낮은 경우, NYHA Functional class 높은 경우 그리고 여성이 낮은 건강관련 삶의 질을 예측하는 독립적 인자인 것으로 나타났고 대상자의 삶의 질을 57.3%로 설명하였다(Adjusted $R^2=0.573$, $p < .001$). **결론:** 건강관리 제공자들은 급성심근경색증 치료 후 낮은 좌심실 구혈률을 보이는 외래환자들, 특히 소득 수준이 낮은 여성들에서 건강관련 삶의 질에 영향을 미치는 심부전 증상과 징후에 대한 주기적인 관찰과 사정이 필요함을 확인하였다.

I. INTRODUCTION

A. Background

Acute myocardial infarction (AMI) is a major cause of death worldwide. AMI survivors are at increased risk of further cardiac events, although much progress has been made against AMI over the last decade in terms of therapeutic approaches (Sim, Jeong, & Kang, 2010). In South Korea, the death rates of ischemic heart disease, including AMI, have increased from approximately 18% in 2000 to approximately 24% in 2006 (Statistics Korea, 2007). The resulting ischemia and ensuing oxygen shortage of AMI that is left untreated for a sufficient period of time can result in heart failure (HF) due to damage or death of muscle tissue (Thygesen, 2007). The American College of Cardiology Foundation/American Heart Association; ACCF/AHA (2011) reported that poor prognosis following myocardial infarction includes the development of HF with left ventricular dysfunction. The number of HF deaths has increased steadily despite advances in treatment, in part because of increasing numbers of patients with HF who have suffered AMI earlier in life (ACCF/AHA, 2011).

Approximately 570 million HF patients are reported worldwide. The HF population in the United States alone is 5million and over 550,000 people are diagnosed with HF for the first time each year (ACCF/AHA, 2011). In South Korea, the incidence of HF is also a growing public health problem because of increases of AMI prevalence in the aging population. The HF population in South Korea is estimated to approximately 1 million, and 32% of HF is caused by AMI (Han et al., 2005). However, as few studies have focused on the post AMI population that is at high risk for HF, there is a need to assess the impact on HF progression on their lives.

HF is a common condition that usually develops slowly as the heart muscle weakens and needs to work harder to keep blood flowing through the body. The weakened heart must work harder to keep up with the demands of the body, which is why people with HF often complain of HF symptoms (ACC/AHA, 2011). Many studies report that the HF symptoms are evident but often ignored due to patients' inability to recognize and interpret symptoms as atypical and not heart

specific symptoms (Albert, Trochelman, Li, & Lin, 2010). Previous studies reported that symptom experience was associated with lower functional status (Kim, 2007; Song et al., 2006) and lower health related quality of life (HRQoL) (Beelman, 2007; Kim, 2007). Accordingly, self assessments for HF symptoms may spur patients with left ventricular dysfunction to seek treatment earlier and follow self-care recommendations. The symptoms that patients experience are key components contributing to health care providers' decisions to initiate medical treatment and conduct further evaluation. Thus, healthcare providers need to assess patients' signs and symptoms more thoroughly in post AMI patients with a HF risk factor such as left ventricular dysfunction.

AMI patients' self-care is focused on medication, diet, exercise, smoking, and emotional distress control to prevent a second attack (Thygesen, 2007). Compliance with self-care has been proven to prevent a second cardiac event, but there is no evidence of AMI self-care compliance related with HF progression. A study also reported that following coronary intervention. There was a strong tendency in AMI patients that demonstrated lower compliance with self-care and lifestyle modification to report lower symptom related satisfaction with daily living (Choi, Jeong, & Hwang, 2011). Therefore, there is a need to assess self-care compliance in post AMI patients with left ventricular dysfunction.

For patients with HF, self-care compliance is needed to ensure effective medical treatment in a seamless health care system, and is needed to improve quality of life (QoL) (Riegel et al., 2009). HF patients experience high levels of physical, functional, and emotional distress as chronic and symptomatic disorders. Since HRQoL has been used as a complementary measure of the medical effectiveness of intervention and advances in the economic evaluation of new health treatment and technologies, much attention has been afforded to improve HRQoL in patients with HF (Moser, 2009). HRQoL was found a strong predictor of the combined endpoint of death and hospitalization in patients with HF (Kato, 2011).

Thus, understanding of the factors associated with a patient's HRQoL and the relations among HF symptoms, self-care, and HRQoL may assist health care providers outlining HF management strategies.

B. Purpose

The purpose of this study was to examine the levels of HF symptoms, self-care compliance, and HRQoL, and to identify predicting factors of HRQoL in post AMI patients who had left ventricular dysfunction. The specific aims were to: 1) identify the levels of HF symptoms, self-care compliance, and HRQoL, 2) examine the differences in the levels of symptoms, self-care compliance, and HRQoL by patients' characteristics, including New York Heart Association functional classification (NYHA FC), 3) examine the relation among the levels of symptoms, self-care compliance, and HRQoL, and 4) examine predicting factors of the HRQoL.

II. METHODS

A. Study Design

This study was a descriptive study that used structured questionnaires in one-on-one interviews with post AMI patients with left ventricular dysfunction.

B. Samples

A total of 105 post-AMI patients were recruited from the outpatient clinic at a National University Hospital in South Korea. The institutional review board of Chonnam National University Hospital approved all recruitment methods (#CNUH2011-094) and written informed consents for participation were obtained. Sample size was determined for survey sampling by regression analysis based on G*power computer program regarding medium effect size, significance level of .05 and 6 predictors. The required sample size was 98 and 105 individuals recruited in this study conferred sufficient statistical power.

The inclusion criteria of subjects were as follows:

- 1) above the age of 18
- 2) left ventricular ejection fraction (LVEF) \leq 50%
- 3) at least greater than 1 year follow up period from first cardiac event
- 4) ability to communicate verbally and agreement to participate in the research

Left ventricular dysfunction was one of the inclusion criteria for diagnosis of HF and it is measured by echocardiography. European Society of Cardiology (2008) Guideline states that less than 50% of LVEF indicates abnormal left ventricular function.

C. Measurements

1. Symptoms

Data on HF symptoms were identified using Friedman's 13 item checklist. This checklist consists of 13 HF symptoms and was generated from the list of HF symptoms stated in the Agency for Health Care Policy Research 1994 publication on Heart Failure Practice Guidelines and that used by Friedman and Griffin (2001). The symptoms include shortness of breath with exertion, difficulty breathing when lying flat in bed, waking up breathless at night, feet or ankles swelling, weight gain, fatigue, weakness, dry, hacking cough, poor appetite, nausea, dizziness, palpitations, and chest pain. Patients were required to answer "yes" or "no" according to the presence (score 1) or absence (score 0) of each of the 13 symptoms during the previous 2 weeks.

2. Self-Care Compliance

Data on patients' compliance with self-care were collected with a self-care compliance scale for AMI patients that was originally developed by Park and modified by Son (2008). The scale consists of a 23 item self-administered questionnaire that addresses follow-up clinic visits and medication (5 items), diet and weight management (8 items), drinking and smoking (2 items), exercise and rest (4 items), sexual behavior (1 item), stress (1 item), and blood pressure and pulse monitoring (2 items). All items were rated on a 5 points Likert scale ranging from 1 for "strongly disagree" and 5 for "strongly agree" with the global score ranging from 23(the worst self-care compliance) to 115 (the best self-care compliance). The reliability of the approach was Cronbach's alpha .80 in Son (2008)'s study, and Cronbach's alpha in this study was .73.

3. HRQoL

Subject's HRQoL was measured by Minnesota Living with Heart Failure Questionnaire (MLHFQ). The MLHFQ is one of the most widely used questionnaires to evaluate HF specific quality of life (QoL) (Jaarsma, 2009). The MLHFQ assesses the perception of the effect of HF and its treatment on patients' lives. It consists of 21 items that cover HF related physical, emotional, and social impairments. The patient's perception of such impairment is assessed on a scale ranging from 0 (no) to 5 (very much). The total MLHFQ score is obtained by adding up the scores for all 21 items (range 0 - 105), and a higher score indicates a worse QoL. In addition, it is possible to calculate a summary score of the impact of HF on physical dimensions based on 8 items (range 0 - 40), and another summary score of its impact on emotional dimensions can be constructed based on 5 items (range 0 - 25). The socio-economic properties dimensions of the MLHFQ can be determined with 8 items (range 0 - 40). The Cronbach's alpha was .91 in a previous study (Heo, Doering, Widener, & Moser, 2008) and the Cronbach's alpha of this study was .922.

4. Demographic and Clinical Characteristics

Demographic characteristics included age, gender, education, living area, status of living alone, occupation, monthly income, exercise habit, smoking habit, and drinking habit.

For Clinical characteristics, patients' electrical medical record (EMR) was reviewed. NYHA FC, LVEF at the first event and follow-up, medical diagnosis at the first event, family history of cardiovascular disease, co-morbidity, frequency of hospitalization, length of days at the first hospitalization, follow-up period after cardiac event, and length of periods from the first event to follow-up LVEF were examined.

a. New York Heart Association Functional Classification

The NYHA FC provides a simple way of classifying the extent of HF. It places patients in 1 of 4 categories based on how much they are limited during physical activity. The limitations and symptoms are related to normal breathing and degrees of shortness of breath, and or angina pain. NYHA FC I is that there are no symptoms and limitations in ordinary physical activity. NYHA FC II means that there are mild symptoms and slight limitation during ordinary activity. NYHA FC III indicates marked limitation in activity due to symptoms, even during less than ordinary activity. NYHA FC IV means that there are severe limitations, including a patient experiencing symptoms even while at rest (Raphael, 2007). This assessment was conducted at the interview by a primary investigator (PI). The PI was an experienced research nurse belonging to the cardiology department of the hospital, and who has interviewed many patients with heart problems on a daily routine basis.

D. Data collection

Data were collected from individual interviews using structured questionnaires and EMR from July to November, 2011 with patients' informed consent. The consent form included the study purpose, study plan, data information, confidentiality and withdrawal agreement. The PI approached and interviewed potential study participants for approximately 20 minutes in the examination room of the outpatient clinic.

E. Data Analysis

Descriptive statistics including frequencies, ranges, means, and standard deviations were conducted for demographic & clinical characteristics, the number of symptoms, the level of self-care compliance and HRQoL. In order to identify differences of outcome in variables from demographic and clinical characteristics, *t*-test and ANOVA were evaluated. Pearson's correlations

coefficients were assessed to examine the possible relations among the number of symptoms, level of self-care compliance and HRQoL. Stepwise multiple regression analysis is used for examining the factors predicting lower level of HRQoL. Two-sided $p < .05$ was set for statistical significance. Statistical analysis was performed using the Statistical Package for Social Sciences (SPSS) Version17.0 for Windows.

III. RESULTS

A. Demographic and Clinical Characteristics of the Subjects

Demographic and clinical characteristics of the subjects were shown in Table 1 and 2. The mean patient age was 64.95 ± 10.91 (range 36 - 91) years, and 83 (79%) of them were male. The mean post AMI follow-up period was 52.19 ± 28.08 months. The mean LVEF at the first event was 43.56 ± 10.05 % (range 26 – 73%), and the mean follow-up LVEF was 40.75 ± 8.34 % (range 20 – 50%).

There were 33 patients (31.4%) classified as NYHA FC I, 37 (35.2%) as NYHA FC II and 35 (29.5%) as NYHA FC III and IV.

B. Levels of HF Symptoms, Self-Care Compliance, and HRQoL

HF symptoms were 4.71 ± 2.92 of 13 reported by patients, and 67 (63.8%) patients experienced fatigue, 59 (56.2%) reported shortness of breath at exertion, 57 (54.3%) reported weakness. Even if patients actually experienced fatigue, weight gain, feet or legs edema, and shortness of breath, these were not reported to the medical provider by 43 (41.0%), 33 (31.4%), 26 (24.8%) and 24 (22.9%) patients, respectively (Table 3 & 4). 2.94 ± 2.25 of HF symptoms belonged to NYHA FC I, 4.05 ± 2.44 of HF symptoms were NYHA FC II and those with 7.15 ± 2.32 of HF symptoms belonged in NYHA FC III and IV (Table 5).

The mean score of self-care compliance was 95.83 ± 10.61 . NYHA FC I was applied to those scoring 95.67 ± 11.61 , NYHA FC II was applied to those who scored 98.16 ± 9.84 , and those who scored 93.51 ± 10.14 were categorized in NYHA FC III and IV (Table 3 and 5).

The mean HRQoL score of the 105 subjects was 44.38 ± 27.66 . The subjects classified in NYHA FC III and IV had the worst HRQoL score of 65.5 ± 24.2 , followed by those scoring 38.57 ± 21.97 being placed in NYHA FC II, and those scoring 28.42 ± 22.39 being placed in NYHA FC I (Table 3 and 5).

C. Differences in Symptoms, Self-Care Compliance and HRQoL by Demographic and Clinical Characteristics

In this study, the *t*-test showed that the number of symptoms were significantly associated with low education ($t = 2.21, p = .030$), low income ($t = 2.73, p = .007$) and a lack of exercises ($t = 2.40, p = .019$). A lower HRQoL was significantly associated with female ($t = -2.53, p = .015$), low education ($t = 3.38, p < .001$), no occupation ($t = 2.98, p = .004$) and low income ($t = 4.11, p < .001$) (Table 6).

Self-care compliance was significantly associated with drinking alcohol ($t = 2.53, p = .016$), smoking ($t = 3.54, p = .002$) and exercise ($t = -3.45, p < .001$) (Table 6).

D. Correlation among Symptoms, Self-Care Compliance, and HRQoL

Pearson's rank correlation coefficients among symptoms, self-care compliance and HRQoL were summarized in table 7. High degrees of correlation were found between symptoms and HRQoL ($r = .693, p < .001$). However, there were no significant relationships between symptoms and self-care compliance, and self-care compliance and HRQoL.

E. Predicting Factors on HRQoL by Stepwise Multiple Regression Analysis

In testing regression assumptions, the dependent variable, HRQoL was normally distributed and the relation with symptoms, self-care compliance, monthly income, NYHA FC and gender are linear. Multicollinearity was assessed and identified no inter-relatedness of the independent variables. The tolerance of a variable and the variance inflation factor were used as measure of collinearity. HF symptoms, self-care compliance, monthly income, NYHA FC and gender were independent variable and entered into stepwise multiple regression models. The number of

symptoms, low income, higher NYHA FC and female accounted for 57.3% of the variance in overall state of HRQoL ($\text{Adj } R^2 = .573, p < .001$). The regression analysis was shown in Table 8.

IV. DISCUSSION

Subjects who were averagely, 65 year old post AMI patients with left ventricular dysfunction reported approximately 5 symptoms of 13 HF symptoms. Self-care compliance was above the average as about 96 of 115 and there were not much different self-care compliances among NYHA FC I, II and III and IV. HRQoL is 44 of 105 and female, low education, no occupation and low income groups were related with HRQoL. Symptoms and HRQoL were a significant relation but there is no significant relation between symptom and HRQoL, and Self-care and HRQoL. The number of symptoms, low income, higher NYHA FC and female gender were predicting factor of HRQoL.

Averagely, they had about 5 symptoms (4.71 ± 2.92) among 13 HF symptom items. The most frequently presented symptoms were fatigue, and followed by reports of shortness of breath with exertion, weakness, and dizziness by more than 50 % of the subjects. In particular, fatigue was more prevalent in this study (64 %) compared to 43.1 % in HF patients. In another study, shortness of breath was less than 100% of HF patients (Albert, Trochelman, Li, & Lin, 2010). Fatigue was often less reported in other studies, and the reason for this is its non-recognition as a HF symptom due to chronic progression (Plach, Heidrich, & Jeske, 2006). In addition, most Koreans tend to attribute fatigue to weakened body strength due to aging, and lack the awareness to recognize fatigue can be a health problem. The problem is that even in subjects who did not have a diagnosis of HF, 56.2 % experienced shortness of breath with exertion. When interview was conducted, the patients did not report their symptoms to the health care provider at follow-up and did not consider them HF symptoms based on information of HF symptom assessment. Self-assessments of specific symptoms help patients seek treatment earlier and follow self-care recommendations. Previous studies reported that symptom experience was associated with lower functional status (Kim, 2007; Song et al., 2006) and lower HRQoL (Belelman, 2007; Kim, 2007). Accordingly, self-assessments for HF symptoms are needed and may help post AMI patients with left ventricular dysfunction seek treatment earlier and follow self-care recommendations.

An increased number of symptoms experienced by patients was determined the most significant predicting factor of lower HRQoL in this study. This result is consistent with previous studies focusing on the symptoms experienced by HF patients, which reported that the HRQoL decreased as the number of symptoms increased (Bekelman, 2007; Kim, 2007), and fatigue was a main cause of decreased HRQoL (Plach, Heidrich, & Jeske, 2006). This finding is also supported by a study on patients diagnosed with HF, which reported that dyspnea, ankle edema, chest discomfort, fatigue, and sleep disorder were significantly associated with functional status (Kim, 2007; Song et al., 2006). Post AMI patients with lower LVEF who have knowledge of HF symptoms will be able to assess their symptoms more closely and guide their treatment-seeking behavior. It will provide key information for early detection and diagnosis to healthcare providers.

In this study, the level of self-care compliance was higher than that of previous studies for Korean AMI patients (Choi, Jeong, & Hwang, 2011; Son, 2008) using the same methods. Self-care compliance was not related with the NYHA FC and HRQoL in this study. This finding is consistent with a study on HF patients in Korea reporting that there was no significant relation between self-care and HRQoL (Song et al., 2006). This result supported by a review article stating that a strong benefit of self-care on QoL in patients with HF is difficult to find (Riegel et al., 2009). In a literature review, Riegel and her colleagues (2009) found that the effect of self-care interventions on QoL in HF patients was not clear from 1995 to 2008. In only 2 out of 18 randomized trials that tested self-care as primary intervention, one study reported greater improvement in QoL in the intervention group than in the control group, whereas the other reported no differences in QoL between groups. There is a need to investigate the relation of QoL and appropriate HF progression focusing on self-care intervention in subsequent clinical outcome in the future.

HRQoL was related with gender, education, occupation, monthly income, drinking habit, exercise, and the NYHA FC. The HRQoL for HF patients is not able to be normalized even with optimal treatment, and is usually worse than other common chronic diseases (Juenger et al., 2002). These findings are similar to the study by Kim (2007) which used the same methods as that of this study and reported that the HRQoL was poor in HF patients with low income, a lack of exercise,

and who were female. Low monthly income and female were also found as independent factors for predicting HRQoL in this study. These findings support that the need for periodical assessment of HRQoL, which covers humans' social, physical, and emotional dimensions and is needed for post AMI patients with lower LVEF, especially for female patients and patients with low socioeconomic status.

A. Study limitations

This study has several significant limitations. Firstly, the generalizability of this study was limited because all patients were recruited at a single hospital and a self-report survey was conducted. Secondly, the small sample size limited the number of variables examined in multivariate analyses and the statistical significance of our findings. Thirdly, medical treatment such as pharmacological and non pharmacological treatment effected to clinical outcomes was not assessed. Finally, this was a single assessment for study variables in the follow-up period in post AMI patients.

B. Implication for future Research

As several studies have pointed out that patients' ability to monitor their symptoms can lead to early detection of HF symptoms and treatment for escalating symptom severity, post AMI patients with left ventricular dysfunction need to educate patients on HF symptoms and recommend regular symptom monitoring and reporting as well as HF focused self-care. In addition, health care providers must not only obtain a report on HF symptoms from patients, but also conduct HF symptom assessment regularly on post AMI transit to patients who are in the early stages of HF. For future research, we recommend studying the effect of self-care education in hospital systems on HRQoL and HF progression in post AMI patients following early stage HF.

V. CONCLUSIONS

The results of this study showed that post AMI patients with low LVEF report about 5 symptoms of 13 symptoms, yet neglect to reported this to their health care providers, and their HRQoL was independently associated with a large number of HF symptoms, lower income, higher NYHA FC and female. However, the levels of self-care compliance were not significantly associated with the level of HRQoL. We suggest that health care providers need to monitor carefully HF symptoms in post AMI patients with lower LVEF to prevent impaired HRQoL and worsening of disease, especially those who have lower income and who are female.

REFERENCES

- A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines: Developed in Collaboration With the American College of Chest Physicians and the International Society for Heart and Lung Transplantation (2011). 2009 Focused Updated Incorporated into ACCF/AHA Guidelines for the Diagnosis and Management of Heart Failure in Adult, *Journal of the American Heart Association*, 119, 1977-2016.
- Albert, N., Trochelman, K., Li, J., & Lin, S. (2010). Signs and symptoms of heart failure: Are you asking the right questions? *American Journal of Critical-Care*, 19(5), 443-453.
- Bekelman, D., Haveranek, E., Beker, D., Kutner, J., Peterson, P., Wittstein, I., et al. (2007). Symptoms, depression, and quality of life in patients with heart failure. *Journal of Cardiac Failure*, 13(8), 643-648.
- Choi ,M., Jeong, M., & Hwang, S. (2011). Restenosis and compliance with self-care among acute coronary syndrome patients undergoing follow-up angiograms. *Korean Journal of Health Promotion*, 11(1), 34-41.
- Friedman, M., & Griffin, J. (2001). Relationship of physical symptoms and physical functioning to depression in patients with heart failure, *Heart & Lung*, 30(2), 98- 104.
- Friedman, M., & Quinn, J. (2008). Heart failure patients' time, symptoms, and actions before a hospital admission. *Journal of Cardiovascular Nursing*, 23, 506-512.
- González, B., Lupón, J., Parajón ,T., Urrutia, A., Herreros, J., & Valle, V. (2006). Use of the European heart failure self-care behaviour scale (EHFScBS) in a heart failure unit in Spain. *Revesta Espanolade Cardiologia*, 59(2), 166-70.
- Han, S., Ryu, K., Cae, S., Yang, D., Shin, M., Lee S., et. al (2005). Multicenter analysis of clinical characteristics and prognostic factors of patients with congestive heart failure in Korea. *Korean Circulation Journal*, 35, 357-361.
- Heo, S., Doering, L., Widener, J., & Moser, D. (2008). Predictors and effect of physical symptom

- status on health-related quality of life in patients with heart failure. *American Journal of Critical Care*, 17, 124-132.
- Jaarsma, T., Arestedt, K., Martensson, J., Dracup, K., & Stromberg, A. (2009). The european heart failure self-care behaviour scale revised into a nine-item scale (EHFScB-9): a reliable and valid international instrument. *European Journal of Heart Failure*, 11, 99-105.
- Jaarsma, T., Strömberg, A., De Geest, S., Fridlund, B., Heikkila, J., Mårtensson, J. et al. (2006). Heart failure management programmes in Europe. *European Journal of Cardiovascular Nursing*, 5, 197-205.
- Jaarsma, T., Strömberg, A., Martensson, J., & Dracup, K. (2003). Development and testing of the european heart failure self-care behaviour scale. *European Journal of Heart Failure*, 5, 363-370.
- Juenger, J., Schellberg, D., Kraemer, S., Haunstetter, A., Zugck, C., Herzog, W. et al. (2002). Health related quality of life in patients with congestive heart failure: comparison with other chronic diseases and relation to functional variables, *British Medical Journal*, 87, 235-241.
- Jurgens, C. (2006). Somatic awareness, uncertainty, and delay in care-seeking in acute heart failure. *Research in Nursing and Health*, 29(2), 74-86.
- Kato, N., Kinugawa, K., Seki, S., Shiga, T., Hatano, M., Yao, A. et al. (2011). Quality of life as an independent predictor for cardiac events and death in patients with heart failure, *Journal of the Japanese Circulation Society*, 75(7), 1661-1669.
- Kim, Y. (2007). A path analysis model of health-related quality of life in patients with heart failure. *Korean Journal of Adult Nursing*, 19(4), 547-555.
- Middel, B., Bouma, J., De Jongste, M., Van Sonderen, E., Niemeijer, M. & Van den Heuvel, W. (2001). Psychometric properties of the minnesota living with heart failure questionnaire (MLHF-Q). *Clinical Rehabilitation*, 15, 489-500.
- Moser, K., Yamokoski, L., Sun, J., Conway, G., Hartman, K., Graziano, J., et al (2009).

- Improvement in health-related quality of life after hospitalization predicts event-free survival in patients with advanced heart failure. *Journal of Cardiac Failure*, 15(9), 763-769.
- Moser, K., & Watkins, J. (2008). Conceptualizing self-care in heart failure: a life course model of patient characteristics. *Journal of Cardiovascular Nursing*, 23(3), 205-218.
- Nieuwenhuis, M., Jaarsma, T., Van Veldhuisen, D., & Van Der Wal, M. (2011). Factor associated with patient delay in seeking care after worsening symptoms in heart failure patients. *Journal of Cardiac Failure*, 17(8), 657-663.
- Plach, S., Heidrich, S., & Jeske, L. (2006). Fatigue representations in women with heart failure. *Research in Nursing & Health*, 29, 452-464
- Raphael, C., Briscoe, C., Davies, J., Whinnett, Z., Manisty, C., Sutton R., et al. (2007). Limitations of the New York Heart Association Functional Classification system and self-reported walking distances in chronic heart failure. *British Medical Journal*, 93, 476-482.
- Rector, T., Anand, I., & Cohn, J. (2006). Relationships between clinical assessments and patients' perceptions of the effects of heart failure on their quality of life. *Journal of cardiac Failure*, 12, 87-92.
- Riegel, B., Driscoll, A., Suwanno, J., Moser, D., Lennie, T., Chung, M., et al. (2009). Heart failure self-care in developed and developing countries. *Journal of Cardiac Failure*, 15(6), 508-516.
- Riegle, B., Moser, D., Anker, S., Appel, L., Dunbar, S., Grady, K., et al. (2009). State of the science promoting self-care in persons with heart failure: a scientific statement from the american heart association. *Circulation*, 120, 1141-1163.
- Rocha, S., Nabais, S., Magalhães, S., Salgado, A., Azevedo, P., Torres, M. et al. (2007). Heart failure after acute coronary syndrome: Identify to treat better. *Revista Portuguesa de Cardiologia*, 26(4), 349-359.
- Sim, D., Jeong, M., & Kang, J. (2010). Current management of acute myocardial infarction:

- Experience from the Korea acute myocardial infarction registry. *Journal of Cardiology*, 56, 1-7
- Son, Y. (2008). The development and effects of an integrated symptom management program for prevention of recurrent cardiac events after percutaneous coronary intervention, *Journal of Korean Academy Nursing*, 38(2), 217-228.
- Song, E., Kim, C., Yoo, I., Kim, G., Kim, J., & Ha, J. (2006). Factors influencing functional status in patients with heart failure. *Journal of Korean Academy of Nursing*, 36(5), 853-862.
- Statistics Korea. (2007). *The leading causes of death 2006*. Daejeon: Statistics Korea.
- The Task Force for the Diagnosis and Treatment of Acute and Chronic Heart Failure 2008 of the European Society of Cardiology. Developed in collaboration with the Heart Failure Association of the ESC(HFA) and endorsed by the European Society of Intensive Care Medicine.(2008). ESC guidelines for the diagnosis and treatment of acute and chronic heart failure. *European Heart Journal*, 29, 2388-2442.
- Thygesen, K., Alpert, J., & White, H. on behalf of the Joint ESC/ACCF/AHA/WHF Task Force for the Redefinition of Myocardial Infarction (2007). Universal definition of myocardial infarction. *European Heart Journal*, 28(20), 2525-2538.
- Yu, D., Lee, D., Thompson, D., Woo, J., and Leung, E. (2010). Assessing self-care behavior of heart failure patients: cross-cultural adaptation of two heart failure self care instruments. *Hong Kong Medical Journal*, 16(3), 13-6.

Table1. Demographic Characteristics

(N=105)

Variables	Categories	n (%)	M±SD
Age (yr)	36-65	53(50.5)	64.95±10.91
	66-91	52(49.5)	
Gender	Male	83(79.0)	
	Female	22(21.0)	
Education	None	18(17.1)	
	Elementary school	25(23.8)	
	Middle school	22(21.0)	
	High school	24(22.9)	
	University	12(11.4)	
	≥ Graduate school	4(3.8)	
Living area	Urban	70(66.7)	
	Rural	35(33.3)	
Living alone	Yes	20(19.0)	
	NO	85(81.0)	
Occupation	No	68(64.8)	
	Yes	32(35.2)	
Monthly income (10,000won)	<100	61(58.1)	
	100-200	14(13.3)	
	200-300	13(12.4)	
	300-400	11(10.5)	
	>400	6(5.7)	
Exercise	Not at all	28(26.7)	
	1/ wk	11(10.5)	
	2-3/ wk	11(10.5)	
	≥4/ wk	55(52.4)	
Smoking	None	27(25.7)	
	Ex-smoker	59(56.2)	
	Current smoker	19(18.1)	
Alcohol Drinking	No	81(77.1)	
	Yes	24(22.9)	

Table2. Clinical Characteristics

(N=105)

Variables	Categories(Range)	n (%)	M±SD
NYHA	I	33(31.4)	
	II	37(35.2)	
	III	31(29.5)	
	IV	4(3.8)	
LVEF at the first event (%)	(26-73)		43.56±10.05
Follow-up LVEF (%)	(20-50)		40.75±8.34
Diagnosis at the first event	STEMI	73(69.5)	
	NSTEMI	32(30.5)	
Family history of CVD	Yes	45(42.9)	
	No	60(57.1)	
Co-morbidity	Diabetes	42(40.0)	
	Hypertension	40(38.1)	
	Stroke	10(9.5)	
Frequency of hospitalization	(1-10)		2.39±1.77
Length of first hospitalization (days)	(2-72)		10.26±8.65
Follow-up period after first event (month)	(12-173)		52.19±28.08
Length of follow-up LVEF period after first event (month)	(0-153)		27.95±30.94

CVD: Cardiovascular disease, NYHA: New York Heart Association Functional Classification, HRQoL: Health related Quality of Life, LVEF: Left ventricular ejection fraction, STEMI: ST elevated myocardial infarction, NSTEMI: Non ST elevated myocardial infarction
AMI: Acute myocardial infarction

Table 3. Levels of Symptoms, Self-care Compliance and HRQoL

Variables	Range	M±SD
Number of Symptoms	0-12	4.71±2.92
Self-care Compliance	69-114	95.83±10.61
Health related Quality of Life	0-103	44.38±27.66

Table 4. Experienced 13HF Symptoms of Post AMI Patients

	Symptoms	n(%)
1	Fatigue	67(63.8)
2	Shortness of breath with exertion	59(56.2)
3	Weakness	57(54.3)
4	Dizziness	54(51.4)
5	Dry and hacking cough	44(41.9)
6	Palpitations	36(34.3)
7	Swelling in the feet or ankles weight gain	35(33.3)
8	Chest pain	34(32.4)
9	Poor appetite	27(25.7)
10	Difficulty breathing when lying flat in bed	26(24.8)
11	Weight gain	24(22.9)
12	Waking up breathless at night	19(18.1)
13	Nausea	15(14.3)

Table 5. Differences in Symptoms, Self-care Compliance and HRQoL by NYHA FC

Variables	Symptoms			Self-care Compliance			Health related Quality of Life		
	M±SD	F(p)	Tukey	M±SD	F(p)	Tukey	M±SD	F(p)	Tukey
NYHA I ^a	2.94±2.25	29.29	a>b>c	95.67±11.61	1.76	c>a>b	28.42±22.39	23.88	a>b>c
II ^b	4.05±2.44	(<.001)		98.16±9.84	(.178)		38.57	(<.001)	
III/IV ^c	7.15±2.32			93.51±10.14			±21.97		
							65.57±24.2		

NYHA: New York Heart Association Functional Classification

Table 6. Differences in Symptoms, Self-care Compliance and HRQoL by Demographic and Clinical Characteristics

(N=105)

Variables		Symptoms		Self-care Compliance		HRQoL	
		M±SD	t (p)	M±SD	t(p)	M±SD	t(p)
Gender	M	4.64±2.92	-.50	96.18±11.09	.659	41.35±28.21	-.253
	F	5.0±2.93	(.617)	94.50±8.66	(.512)	55.82±22.53	(.015)
Living alone	Yes	5.47±3.26	1.15	95.50±10.04	-.16	53.95±25.88	1.81
	No	4.54±2.83	(.259)	95.91±10.80	(.874)	42.13±27.72	(.080)
Education (school)	≤Primary	5.44±2.76	2.21	94.51±9.97	-1.08	54.49±23.33	3.38
	≥Middle	4.20±2.93	(.030)	96.74±11.02	(.283)	37.27±28.41	(.001)
Occupation	No	5.03±3.12	1.62	96.94±10.20	1.42	49.88±27.95	2.98
	Yes	4.14±2.43	(.109)	93.78±11.18	(.159)	34.27±24.36	(.004)
Monthly income (10000won)	<100	5.33±3.14	2.73	96.98±9.45	1.27	53.02±26.93	4.11
	>100	3.86±2.35	(.007)	94.23±11.96	(.208)	32.41±24.21	(<.001)
Alcohol Drinking	No	4.74±2.99	.18	97.26±10.19	2.53	47.73±28.27	2.63
	Yes	4.63±2.70	(.862)	91.00±10.78	(.016)	33.08±22.52	(.012)
Smoking	None/Ex	4.60±2.95	-.85	97.53±9.862	3.54	44.74±27.82	.287
	Current	5.21±2.80	(.402)	88.11±10.692	(.002)	42.74±27.59	(.777)
Exercise	No	5.71±2.40	2.40	90.29±9.824	-3.45	54.50±24.94	2.43
	≥1/wk	4.34±3.01	(.019)	97.84±10.215	(.001)	40.70±27.83	(.019)

NYHA: New York Heart Association Functional Classification

HRQoL: Health related quality of life

Table 7. Correlation Coefficients among Symptoms, Self-care Compliance and HRQoL

	Symptoms	Self-care Compliance	HRQoL
	<i>(p)</i>	<i>(p)</i>	<i>(p)</i>
Symptoms	1.00	-.140 (.157)	.693 (<.001)
Self-care Compliance		1.00	.014 (.445)
HRQoL			1.00

HRQoL: Health related Quality of Life

Table 8. Predicting Factors on HRQoL

	B	SE	β	t	<i>p</i>	Adj R ²	F(<i>p</i>)
(Constant)	1.55	8.749		.177		.573	35.527
Symptoms	4.82	.772	.51	6.242	<.001		(<.001)
Monthly income	-3.83	1.488	-.18	-2.576	.011		
NYHA	7.14	2.595	.23	2.751	.007		
Gender	10.89	4.558	.16	2.390	.019		

NYHA: New York Heart Association Classification, HRQoL: Health related Quality of Life

연구참여 동의서

연구제목: 급성심근경색증 후 심부전 이행 환자에서 증상, 자가간호 이행, 가족 지지 및 삶의 질 정도 조사

연구자: 전남대학교병원 순환기 내과 연구 간호사 김 하 미

안녕하세요.

저는 전남대학교 병원 순환기 내과 연구 간호사 및 조선대학교 대학원 간호학과 석사 과정에 있는 학생입니다.

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2011년 월 일

순환기 내과 연구 간호사 김 하 미

조선대학교 대학원 간호학과 석사과정

책임연구자: 김 하 미 (서명)

본인은 심근경색증을 경험한 환자들을 대상으로 심부전 증상, 자가간호 이행, 가족지지, 및 질병 관련 삶의 질에 대한 설문지에 대답할 것을 부탁 받고 자의에 의해 참여하고자 합니다. 이 연구에 참여하는 동안 자신에게 어떠한 비용이나 위험이 따르지 않는다는 것을 설명을 통해 알고 있으며 연구인이 참여자의 익명을 보장하고 연구 도중

원하지 않을 경우 언제든지 거절할 수 있음을 설명 받았습니다.

2011년 월 일

연구 참여자:

(서명)

I. 일반적 특성

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등록번호:

환자명:

면담 일자:

다음은 귀하에 관한 일반적인 질문들입니다. 해당하는 곳에 ○표 해 주십시오.

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7. 종교
 - ① 무교 ②기독교 ③불교 ④천주교 ⑤기타_____
8. 직업
 - ① 무직(주부) ② 상업 ③농업 ④어업 ⑤서비스업 ⑥ 전문직 ⑦ 사무직
 - ⑧ 노동직 ⑨ 자영업 ⑩ 운수업 ⑪ 기타_____
9. 가족의 월수입
 - ①100만원 미만 ②100-200만원 ③200-300만원 ④300-400만원 ⑤400만원 이상
10. 음주 습관
 - ① 전혀 안 마심 ② 주당 1-2 회 ③ 주당 3-4 회 ④ 주당 5 회 이상
11. 흡연 습관
 - ① 전혀 피운 적 없음 ② 과거에 피웠지만 지금은 끊음(_____년 전)
 - ③ 현재도 피우고 있음 (_____세부터 하루에 _____개피 정도, 총 흡연기간 _____년)
12. 운동 습관 (옷에 땀이 배일 정도의 유산소 운동을 평균 어느 정도 하십니까?)
 - ①전혀 안한다. ②아주가끔 한다. ③주 1-2 회가량 한다. ④ 주 3-4 회이상 한다.
13. 식습관(동물성 지방 섭취: 육류, 계란, 튀김 등)
 - ① 전혀 먹지않음 ② 아주적게 먹는 편임 ③ 보통으로 먹는 편임 ④ 많이 먹음
14. 식습관(짠 음식 섭취)

- ① 전혀 먹지않음 ② 아주적게 먹는 편임 ③ 보통으로 먹는편임 ④ 많이 먹음
 15. 키 _____cm 몸무게 _____kg

II. 임상적 특성

1. 지금까지 심장 질환으로 입원한 총 횟수 _____회
2. 심장질환 이외에 타 질환 유무 ① 없다 ② 있다
 있다면 ①당뇨 ②고혈압 ③뇌졸중 ④판막질환 ⑤ 관절염 ⑥부정맥 신장질환
 기타 _____고혈압 유병기간 (년)당뇨 유병기간 (년)
3. 가족 중에 심혈관 질환을 앓았거나 현재 앓고 있는 사람이 있습니까?
 ① 아니오 ② 예
 만약 있다면 누가, 어떻게?
 고혈압: ①부모 ②형제 자매 ③조부모
 심근경색이나 심장질환: ①부모 ②형제 자매 ③조부모
 뇌졸중: ①부모 ②형제 자매 ③조부모
4. AMI 진단 당시 자료
 진단명: ① STEMI ② NSTEMI
 협착 위치: ① 전측부 (anteriolateral) ② 후측부 (posteriolateral)
 ① p-RCA ② d-RCA ③ m-RCA ④ p-LAD ⑤ d-LAD ⑥ m-LAD
 ⑦ p-LCX ⑧d-LCX ⑨ m-LCX ⑩ d-RCX ⑪ LMS ⑫ d-LM
 치료: 관상동맥질환치료 ① Stent 시술 ② 관상동맥확장술(Balloon only)
 LVEF (%) 입원 일자 () 총 입원 기간 (일)
 중환자실 입원기간 (일)
 입원 당시 주 증상(acute event):

III. 증상 경험

현재 느끼는 증상을 1번에서 4번 중 해당되는 곳에 ○표 해 주십시오

- 1) 일상생활에 지장이 없는 상태로 활동 시 불편한 증상이 없다.
- 2) 일상생활에 지장이 약간 느껴지는 상태로 활동 시 숨이 차거나 가슴통증 등이 있다.
- 3) 일상생활에서 활동에 제한을 받는 것으로 한 층 이상 계단을 오르면, 숨이 차거나 가슴통증 등이 있으나 쉬면 나아진다.
- 4) 일상생활에서 활동에 제한을 받는 것으로 누워 있어도 숨이 차거나, 가슴 통증 등이 있다.

귀하의 증상에 관하여 묻는 질문입니다. 아래 나열된 모든 증상들 중 지난 2개월 동안 귀하께서는 아래의 증상을 경험하십니까?

해당하는 곳에 ○표 해 주시기 바랍니다.

	있음	없음
1. 활동 시 숨이 가쁘다.		
2. 가만히 누워 있을 때 호흡곤란이 있다.		
3. 밤에 호흡곤란으로 깨어 있다.		
4. 발과 발목에 붓기가 있다.		
5. 체중증가가 있다.		
6. 피로하다.		
7. 허약감을 느낀다.		
8. 마른기침을 한다.		
9. 식욕부진이 있다.		
10. 오심이 있다.		
11. 어지러움이 있다.		
12. 심장이 빠르게 뛰는 것을 느낀다.		
13. 가슴통증이 있다.		

IV. 자가관리이행

다음은 귀하의 심장질환 관리에 관한 내용입니다. 심근경색증을 진단 받은 이후 귀하의 생활과 일치하는 곳에 O표 해 주시기 바랍니다.

		전혀 하지 않았다	거의 하지 않았다	보통 이다	비교적 잘 하였다	항상 잘 하였다
1	정기적으로 병원에서 건강검진을 하였다.	1	2	3	4	5
2	병원을 방문해야 하는 위험증상을 잘 알고 주의하였다.	1	2	3	4	5
3	병원에서 처방 받은 약은 규칙적으로 복용하였다.	1	2	3	4	5
4	집에 있는 모든 약들의 부작용을 잘 알고 먹었다.	1	2	3	4	5
5	의사의 처방 없이 다른 약을 함부로 먹지 않았다.	1	2	3	4	5
6	새우, 오징어, 내장류, 계란 등을 많이 먹지 않았다.	1	2	3	4	5
7	커피, 콜라 등 자극적인 식품은 피하였다.	1	2	3	4	5
8	식사는 거르지 않고 일정 시간에 규칙적으로 하였다.	1	2	3	4	5
9	음식은 과식하지 않고 소량씩 먹었다.	1	2	3	4	5
10	음식은 늘 싱겁게 먹었다.	1	2	3	4	5
11	기름기가 많은 음식을 피하였다.	1	2	3	4	5
12	야채 및 과일을 많이 먹었다.	1	2	3	4	5
13	퇴원 이후 담배를 피우지 않았다.	1	2	3	4	5
14	과음(술)을 하지 않았다.	1	2	3	4	5
15	육체적으로 과로를 하지 않았다.	1	2	3	4	5
16	피로하지 않게 하루에 적당히 휴식을 취하였다.	1	2	3	4	5
17	밤에 잠을 잘 잤다.	1	2	3	4	5
18	한번에 30분 이상의 규칙적인 운동을 하였다.	1	2	3	4	5
19	부부생활을 무리가 가지 않게 조절하였다.	1	2	3	4	5
20	스트레스가 쌓이지 않게 화나 흥분을 조절하였다.	1	2	3	4	5

21	맥박을 규칙적으로 측정하였다.	1	2	3	4	5
22	혈압을 규칙적으로 측정하였다.	1	2	3	4	5
23	몸무게를 규칙적으로 측정하였다.	1	2	3	4	5

V. 삶의 질 지난2주 동안 귀하의 삶이 다음과 같은 이유로 인해 얼마나 영향을 받았는지에 대한 질문입니다. 각 질문을 읽어보시고 해당되는 번호에 O표를 해 주시기 바랍니다.

		전혀 영향 없음	아주 조금 영향	조금 영향 받음	보통 영향	많이 영향 받음	매우 많이 영향
1	발목과 다리가 부어서	0	1	2	3	4	5
2	낮동안에 쉬기위해서 앉아 있거나 누워 있음으로 해서	0	1	2	3	4	5
3	계단을 오르거나 걷는 것이 힘들어서	0	1	2	3	4	5
4	집안일을 하는 것이 힘들어서	0	1	2	3	4	5
5	집에서 먼 장소까지 가는 것이 힘들어서	0	1	2	3	4	5
6	밤에 잘 자는 것이 어려워서	0	1	2	3	4	5
7	가족과 친구와 함께 무엇인가 하는 것이 힘들어서	0	1	2	3	4	5
8	생계를 위해서 돈 벌기가 힘들어서	0	1	2	3	4	5
9	여가생활, 운동, 취미생활하기가 어려워서	0	1	2	3	4	5
10	부부생활하기가 어려워서	0	1	2	3	4	5
11	좋아하는 음식을 많이 먹을 수가 없어서	0	1	2	3	4	5
12	숨이 차서	0	1	2	3	4	5
13	피로하고 기운이 없어서	0	1	2	3	4	5
14	병원에 입원함으로 인해서	0	1	2	3	4	5
15	의료비로 인한 돈 때문에	0	1	2	3	4	5
16	약의 부작용으로 인해서	0	1	2	3	4	5
17	내가 친구와 가족에게 부담이 된다고 느끼기 때문에	0	1	2	3	4	5
18	삶을 조절할 있는 능력을 상실했다고 느끼기 때문에	0	1	2	3	4	5
19	걱정이 되어서	0	1	2	3	4	5
20	어떤 일에 대해서 기억하고 집중하기가 어려워서	0	1	2	3	4	5

21	우울하다고 느껴서	0	1	2	3	4	5
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감사의 글

2010년 설렘과 두려움을 안고 다시 대학의 문턱에 발을 디뎠습니다. 지난 2년간의 시간을 돌아보면 결코 쉽지만은 않은 시간이었던 것 같습니다. 많은 고민과 함께 육체적 정신적 피로감에 여러 번의 한계를 경험하면서 이렇게 하나의 결실을 맺게 되었습니다.

조선대학교의 2년간의 생활은 잊지 못할 인연을 만들어 주었습니다. 눈앞의 일에 급급한 현실에서 사고할 수 있는 시간을 주신 공병혜 교수님, 간호란 무엇인지, 왜 연구를 해야 하는지를 알려주신 김인숙 교수님, 오현이 교수님, 배려와 예리함 사이에 큰 산을 너무 쉽게 넘게 하신 김진선 교수님, 학생들에 대한 뜨거운 사랑으로 늘 열정적이신 김계하 교수님, 부드러움 속에 늘 핵심을 가르쳐 주시는 강희영 교수님, 교수님의 카리스마 넘치는 강의는 잊지 못할 것입니다, 권영란 교수님, 늘 보이지 않는 곳에서 도와주시는 조교 혜진 선생님, 신현 선생님, 치열한 시간을 함께 보냈던 동기들, 언급하지 못했지만 함께 시간을 보냈던 선배님 후배님들, 모두들 너무 감사합니다.

그리고 황선영 교수님, 교수님과의 특별한 인연 속에 이 많은 인연을 낳을 수 있었습니다. 늘 자상하고 인자한 성품으로 부드럽게 이끄시는 교수님의 계획은 부족한 저로서는 다 알 수 없었지만 교수님의 넉넉함 속에 2년간의 삶이 참 다채로웠습니다. 분주함과 많은 일들을 진행하시면서 잊지 않고 늘 돌보아 주셔서 감사합니다.

또한 이 시간에 학업에 열중할 수 있었던 것은 전남대학교병원에서의 지지와 응원 덕분이었습니다. 늘 물심양면으로 자상하게 배려해주신 정명호 교수님, 늘 지지해주고 응원해주신 선생님들 김청 선생님, 오미숙 선생님, 그리고 특별히 심부전에 관한 논문을 쓰는데 조언을 주신 안영근 과장님, 임상춘 선생님, 김계훈 교수님, 홍영준 교수님, 외래에서 늘 격려 해 주신 설수영 선생님, 한수경 선생님, 김영미 선생님, 조애숙 선생님, 이이선 선생님, 류향자 선생님, 장미선 선생님, 먼저 가본 길에 길잡이가 되어 준 김은정 선생님, 윤하동생, 그리고 석사과정을 함께 하면서 격려 해주신 김남윤 선생님, 그리고 언급하지 못했지만 늘 보이지 않게 배려해 주신 선생님들, 모두들 너무 감사합니다.

아직까지 막내라며 뒷바라지 하시느라 수고 하시는 엄마 아빠. 늦게 들어오는 딸 때문에 잠도 설치시던 부모님의 충혈된 눈을 보면서 더욱 열심히 할 수 밖에 없었습니다. 늘 사랑하고 감사합니다.

Special Thanks for you, Guy Jessen. I'll meet you upstairs, soon.

Lastly, Thanks God a lot. Everything is in your plan.

미흡한 이 논문이 심근경색증의 마지막 관문으로 가는 환자들을 위해 조금이나마 도움이 될 수 있는 작은 계기가 되기를 바랍니다.

2011 년 12 월

김 하 미 드림