

# Assessment of Myocardial Infarction Patients Needs on Nursing Care in Cardiac Rehabilitation of Hasan Sadikin Hospital Indonesia

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## ABSTRACT

**Purpose:** The lack of adherence to health behaviors in cardiac rehabilitation (CR) is the leading cause of recurrent myocardial infarction (MI) in Indonesia. Role and support of health workers, especially nurses in the cardiac rehabilitation process are essential to improve the effectiveness of a cardiac rehabilitation program. Unfortunately, the nursing care in cardiac rehabilitation has not been available yet, whereas the patients need it in the hospital. Thus, this study aimed to assess further needs of patients with myocardial infarction who performed cardiac rehabilitation on nursing care at the Hasan Sadikin Hospital Bandung.

**Methods:** This descriptive study aimed to identify the needs of patients with myocardial infarction who performed cardiac rehabilitation on nursing care. Quantitative data was obtained from questionnaires that were filled in by the respondents using a retrospective technique. **Results:** The results of this study revealed that most of the patients required nutritional counseling, risk factors management, exercise counseling, and physical activities counseling. The majority of the patients needed to get assistance on psychosocial management and smoking cessation. In addition, half of the respondents revealed that they required nursing assessment from nurses during performing cardiac rehabilitation. **Conclusions:** The results of this study have affirmed the importance of providing nursing care to increase the effectiveness of cardiac rehabilitation to provide accurate information for nurses or health workers before conducting a cardiac rehabilitation program.

*Keywords:* needs assessment; cardiac rehabilitation; nursing

## Introduction

Myocardial infarction (MI) is the leading cause of death and disability worldwide. [1] More than a million (0.5%) of the total population in Indonesia and approximately 227.364 (0.5%) of people in West Java Province of Indonesia were diagnosed with coronary heart disease (CHD) in 2013. [2] Recurrent cardiac events are still the critical issue among patients with MI. About one-fifth (21.2%) of patients were still reported to have a recurrent MI. [3] Therefore, the prevention of recurrent cardiac events through cardiac rehabilitation (CR) is essential for MI patients.

CR is activities required after cardiac events to facilitate recovery and prevent a further cardiac event. [4] Main focus of CR program is to prevent recurrent cardiac events, foster healthy behavior and compliance, reduce disability, and promote an active lifestyle for patients with cardiovascular disease. [5]

Although CR has been shown to have favorable effects, only one-third of patients experiencing a cardiac event undergo CR. [6] Also, the lack of adherence to cardiac rehabilitation became a main cause of recurrent myocardial infarction.

Thus, to promote the effectiveness of a cardiac rehabilitation program, the role of nurses in assisting the process of cardiac rehabilitation was essential. Unfortunately, the nursing care in cardiac rehabilitation of Hasan Sadikin Hospital has not been available yet. Therefore, assessments related to the needs of nursing role and nursing care for myocardial infarction patients

DOI: 10.5176/2345-718X\_4.2.143

performing cardiac rehabilitation program were essential.

## Methods

### *Study design*

This research used the descriptive method with quantitative approach. This study was conducted to assess needs of patients with myocardial infarction who performed cardiac rehabilitation on nursing care at the Hasan Sadikin Hospital Bandung.

### *Setting and sample*

The sample of this study was consisted of 38 MI patients admitted into the Cardiac Rehabilitation Unit in Hasan Sadikin Hospital. Hasan Sadikin Hospital is a tertiary hospital located in West Java Province, Indonesia. This study used total sampling as sampling procedure.

### *Ethical consideration*

This study was conducted after obtaining approval from the Research Ethics Committee of Faculty of Nursing, University of Padjadjaran and permission from Hasan Sadikin Hospital, Indonesia. In the process of recruiting participants, the researcher explained to the potential participants the details of the study. All of the participants received the information that they have the right to choose whether to participate or they may withdraw at any time without any negative consequences. The participants could convey their agreement to participate in the program verbally and by written consent.

### *Measurements/Instruments*

The instrument used in this study was developed by the researcher based on cardiac rehabilitation and secondary prevention guidelines established by the American Heart Association. Three experts evaluated the content validity of the instruments. They gave suggestions regarding the instruments, and then the researcher revised the instruments based on their suggestions.

The questionnaire consisted of seven subscales of health behaviors: 1) Patient assessment 2) Nutritional counseling; 3) Risk factor management; 4) Tobacco Cessation; 5) Psychosocial management; 6) Physical activity counseling; and 7) Exercise training.

The questionnaire used five Likert scales. The score was rated as 1= Not

applicable, 2= satisfied, 3 = low need, 4 = moderate need, and 5 = high need. The total score ranges from 29 to 145. Higher scores indicate higher needs of patients with myocardial infarction who performed cardiac rehabilitation on nursing care. For this study, the researcher involved patients who met the same criteria as the actual sample for testing the reliability of the instruments. The Cronbach's alpha coefficient showed the reliability result of the instrument was 0.95.

### *Data collection/Procedure*

The data was collected at the cardiac center of Hasan Sadikin Hospital, Indonesia. The data was obtained from questionnaires that were filled in by the respondents using a retrospective technique at the end of the cardiac rehabilitation program.

### *Data analysis*

The researcher used descriptive statistics to analyze the data to answer the research questions. Descriptive statistics were used to analyze and describe the demographic information and the needs of cardiac rehabilitation patients on nursing care using frequencies, percentages, mean, range, and standard deviation.

**Results**

No	Patients' Needs	No Need				Need					
		Not relevant		Fulfilled		Low need		Medium need		High need	
		F	%	F	%	F	%	F	%	F	%
1	<i>The patient needs on nurse assessment</i>	0	0	2	5.3 %	6	15.8 %	19	50 %	11	28.9 %
2	<i>The patient needs on nutritional counseling</i>	0	0	3	7.9 %	7	18.4 %	18	47.4 %	10	26.3 %
3	<i>The patient needs on risk factor management</i>	0	0	3	7.9 %	10	26.3 %	17	44.7 %	8	21.1 %
4	<i>The patient needs on smoking cessation</i>	2	5.3 %	6	15.8 %	7	18.4 %	14	36.8 %	9	23.7 %
5	<i>The patient needs on psychosocial management</i>	4	10.5 %	8	21.1 %	8	21.1 %	10	26.3 %	8	21.1 %
6	<i>The patient needs on physical activity counseling</i>	1	2.6 %	4	10.5 %	13	34.2 %	15	39.5 %	5	13.2 %
7	<i>The patient needs on exercise counseling</i>	1	2.6 %	2	5.3 %	14	36.8 %	13	34.2 %	8	21.1 %

**Table 1. The frequency distribution of cardiac rehabilitation patients' needs (n = 38)**

Table 1 presents the frequency distributions of cardiac rehabilitation patient needs on nursing care. In this study, patients revealed their needs on nurse assistance in performing a cardiac rehabilitation on the following components; basic patient assessment, nutritional counseling, risk factor management (lipids, blood pressure, weight, diabetes mellitus, and smoking), psychosocial interventions, and physical activity and exercise counseling.

The results of this study revealed that most of the patients required nutritional counseling (92.1%), risk factors management (92.1%), exercise counseling (92.1%), and physical activities counseling (86.9%) from nurses during performing cardiac rehabilitation. The majority of the patients needed to get assistance on psychosocial management (68.5%) and smoking cessation (78.9%). In addition, half of the respondents (50%) revealed that they required nursing assessment.

Most of the patients revealed that they required nutritional counseling from nurses (92.1%). Specifically, they required it in low (18.4%), medium (47.4%), and high category (26.3%). There were 92.1% of the patients showed their needs on cardiac rehabilitation towards the risk factors management from the nurses, where

specifically they needed it in low (26.3%), medium (44.7%), and high level (21.1%).

Most of the cardiac rehabilitation patients required to get exercise counseling from nurses (92.1%). Specifically they required it in low (36.8%), medium (34.2%), and high level (21.1%). Table 1 reveals that most of the patients of cardiac rehabilitation

required getting physical activities counseling from nurses (86.9%). Specifically, they required it in low (34.2%), medium (39.5%), and high level (13.2%).

The majority of the patients (68.5%) presented their need in psychosocial management from nurses during performing cardiac rehabilitation. In specific, they needed it in the low (21.1%), medium (26.3%), and high category (21.1%). The majority of the patients of cardiac rehabilitation needed to get assistance from nurses to quit smoking (78.9%), specifically they needed assistance in low (18.4%), medium (36.8%), and high category (23.7%).

## Discussion

The age of patients with myocardial infarction (MI) in this study ranged from 44 to 74 years with an average age of 56.37 years old. These results are supported by the declaration from the National Health, Lung and Blood Institute [7] where generally, the risk of coronary heart disease increases after the age of 55 years in men and women. The majority of the patients in this study were male (73.7%). These results were consistent with the results of the previous study conducted by Leifheit-Limson et al [8] where 67% of myocardial infarction patients are male.

The cardiac rehabilitation or secondary prevention programs are an integral part of the comprehensive care for patients with heart disease. The cardiac rehabilitation program should offer a diverse and multidisciplinary approach. Based on the recommendation of the American Heart Association (AHA), a cardiac rehabilitation program or secondary prevention should consist of the core component of rehabilitation, aimed to optimize cardiovascular risk reduction, support healthy behavior and compliance with the behavior, reduce disability, and promote an active lifestyle for patients with cardiovascular disease. Recently, the core component is an integral part of the standard process of cardiac rehabilitation treatment as secondary prevention programs that have been approved by the AHA. [5]

The tasks and roles of the nurses are designed based on the core components of cardiac rehabilitation program, which has been recommended by AHA to address the needs of the patients towards nursing care during the rehabilitation program. In this study, the need for cardiac rehabilitation patients on the nursing care was evaluated and analyzed by each core component of a cardiac rehabilitation program. The components consist of the basic patient assessment, nutritional counseling, risk factor management (lipids, blood pressure, weight, diabetes mellitus, and smoking), psychosocial interventions, physical activity and exercise counseling.

A half of the patients revealed that they required nursing assessment in the medium category when they were performing a cardiac rehabilitation. Basic patients' assessment needs consisted of analysis patients' medical records, current complaints, history of treatment, the

consumed drugs, the risk of heart disease and changes in quality of life and performs cardiopulmonary physical examination (pulse, blood pressure, etc.), wound and additional examination procedures such as ECG.

Most of the patients in this study required nutritional counseling from a nurse such as calculate total daily intake of calories, fat, cholesterol, and salt in a day, the habit of eating fruits, vegetables, and fish; the number of meals and snacks, the frequency of eating out and counseling regarding patient diet. Although generally, the patients had received nutritional counseling from nutritionists and nurses before discharge from the hospital when they were hospitalized, they revealed that it should perform continuously to maintain compliance on a diet along with the rehabilitation program.

Most of the patient's required risk factors management from nurses that consisted of measuring weight and height to determine the nutritional status, blood pressure, assess medication adherence, assess the results of laboratory tests of cholesterol, and blood glucose regularly and monitor for complications. Most of the patients stated that they needed help to stop smoking from a nurse. Few patients presented that smoking cessation was not relevant since some of them were female patients that did not smoke. Another few patients presented that they need for smoking cessation had been met since they can stop smoking with personal motivations and family.

Most of the patients stated that they needed physical activities counseling from the nurse such as assessing the current level of physical activity, determining the needs of everyday life, work, and recreation, and evaluating the activities based on age, sex, and everyday life, such as driving, sexual activity, sports, gardening and housework as well as readiness to change behavior, self-confidence, barriers to increasing physical activity, and social support in making positive changes. Most of the patients stated that they required exercise counseling from nurses such as assessing any complaints which limit activity during exercise and determining the level of supervision and monitoring during exercise on each patient. On the other hand, few patients stated that they did not need exercise counseling from nurses.

More than a half of cardiac rehabilitation patients in this study stated that they needed psychosocial management from nurses such as identifying depression, anxiety, anger, self-isolation, psychological distress and identifying the use of sedative drugs. Few patients stated they did not require psychosocial management from nurses since they can overcome with the help of family.

### Conclusion

The tasks and roles of the nurses are designed based on the core components of cardiac rehabilitation program, which has been recommended by AHA to address the needs of the patients towards nursing care during the rehabilitation program. The results of this study revealed that most of the patients required nutritional counseling, risk factors management, exercise counseling, and physical activities counseling from nurses during performing cardiac rehabilitation. The majority of the patients needed to get assistance on psychosocial management and smoking cessation. In addition, half of the respondents revealed that they required nursing assessment. Future studies are expected to conduct research related to the practical trial of nursing care to accomplish cardiac rehabilitation patients' needs following this study.

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<http://dx.doi:10.1016/j.amjcard.2013.08.039>

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