

## Barriers in the process of care transition from hospital to home in post-acute coronary syndrome: patients' perspective



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### ABSTRACT

**Introduction:** Acute coronary syndrome (ACS) patients are at a higher long-term risk of recurrent cardiovascular events. The transition from hospital to home is a delicate time. Patients frequently have potentially unavoidable adverse events and hospital readmissions after being discharged from the hospital. This study aims to explore the barriers of patients' transition experiences from hospital to home care in post-acute coronary syndromes.

**Methods:** An exploratory qualitative research design with a phenomenological approach was used in the study. Research data were collected using semi-structured interviews from April to Juli 2020. It was selected from 15 patients diagnosed with acute coronary syndrome (ACS) using the purposive sampling technique. The data were analyzed using thematic content analysis.

**Results:** This study recruited 15 participants post-ACS. Four barriers were identified: (1) Psychological barriers: stress, fear, anxiety; (2) physical barriers: chest pain, dyspnea, palpitation; (3) lack of knowledge, including diet, coronary disease, return to work, medication, and heart attack intervention; and (4) low adherence to smoking cessation, daily activity, and medication adherence.

**Conclusion:** At the time of discharge, there is a need for a new approach to communicating with the patients, educating patients and families, and preparing for ACS patients. The findings of this study will help nurses better understand the barriers of transitional care from the hospital to the home.

**Keywords:** Barriers, hospital to home, post-acute coronary syndrome, transitioning care.

**Cite This Article:** Khoiriyanti, A., Sukartini, T., Kusnanto, K., Kurniawati, N.D. 2021. Barriers in the process of care transition from hospital to home in post-acute coronary syndrome: patients' perspective. *Bali Medical Journal* 10(3) Special Issue ICONURS: 1308-1312. DOI: 10.15562/bmj.v10i3.2908

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Received: 2021-11-03

Accepted: 2021-12-24

Published: 2021-12-30

### INTRODUCTION

Discharge is a critical transition point where hospitalists can facilitate the transition to primary care and improve adherence to ACS quality measures. Lack of communication during discharge, according to reports, leads to post-discharge adverse events, most of which are related to medications and a lack of follow-up on delayed test results.<sup>1</sup> For patients, the recovery transition period is a complex process. This transition of care is critical as it can adversely affect patient safety.<sup>2</sup> The transition of care from hospital to home also requires good coordination between various disciplines and coordination with patients and their families.<sup>3</sup>

In terms of hospitalization, patients and families may feel unprepared to return home due to an inadequate understanding

of their recovery process and little knowledge of their health condition or expected progress. Furthermore, patients may be uncertain about their illness, troubled by complex medication regimens, and receive contradictory advice about chronic disease self-management.<sup>4</sup> Psychosocial factors can impact patient health and continuity in daily living and care activities.<sup>5</sup> If the patient feels a lack of readiness for discharge, it can strongly predict coping difficulties after discharge and readmission to the hospital.<sup>6</sup>

Post-ACS patients have a desire to develop and take approaches with new perspectives on their lives.<sup>7</sup> Moreover, it is crucial to explore the experience of the care transition felt by patients after ACS. This study aims to explore the experience of transitioning from hospital to home care in patients with acute coronary syndrome.

### METHODS

This study used a qualitative design with a phenomenological approach<sup>8</sup> to explore the barriers to transitioning post-ACS patient care from the hospital to the home. The data were collected at two private hospitals in Yogyakarta, Indonesia. The selection process of participants used a purposive sampling technique. There were 15 post ACS participants within 1-2 weeks after discharge from the hospitals who participated in this study. The participants' criteria included: (1) Patients at post-ACS treatment within 1-2 weeks after discharge from the hospital, and (2) patients who had a previous medical history of a heart attack. Participants and researchers had never met before the implementation of this study.

Data collection used semi-structured one-to-one interviews through a video

call from April to July 2020. All of the interviews were recorded using audio recording and then transcribed. By having good communication with the researcher, the credibility of the findings was established. The member check was used to compare the ideas collected from the data and the participants' opinions. Furthermore, confirmability was carried out through maintaining memos, notes, and reflective journals during the entire process of data analysis. Data analysis used open code software based on thematic content analysis.<sup>9,10</sup>

This research has been approved by the Health Research ethics committee team of the Faculty of Nursing, Universitas Airlangga no. 1915-KEPK. All participants had received an explanation and stated that they were willing to participate in the study by signing informed consent. None of the participants refused to participate in this study. All participants' identities were removed from this publication for confidentiality.

## RESULTS

According to Table 1. It revealed that the majority of participants were male, between the ages of 51 and 60, have a senior high school education background. All of participants were married, smoking known to be the leading risk factor in this research (data were not shown). The majority have no comorbidities, and the majority have had a second heart attack (Table 1).

The results of qualitative data analysis found that there were 4 main themes related to the barriers to transitioning care from hospital to home in post-ACS patients: (1) psychological barriers, (2) physical barriers, (3) lack of knowledge, and (4) low adherence. The following is a table of the relationships between themes and subthemes (Table 2).

### Theme 1: Physical barriers

This theme illustrated that post ACS participants experience physical barriers during the transition process, such as

dyspnea, palpitations, chest pain, and medication side effects. The emergence of complaints felt by participants, especially in the few days after returning from the hospital, caused daily physical activities to be disrupted. These perceived complaints varied from each participant. Some complaints appeared in the early week (the first week) after returning from the hospital. Complaints arose when participants finished their activities, such as walking or doing activities at home (bathing, cleaning the house). Some appeared while the patient was resting. However, some participants did not experience significant disturbances as the complaints did not appear when carrying out activities. The following is a quote from a participant:

"Often...that day you will feel tightness in your left chest..." (P13)

"At the moment, if you just want to sleep, you have to use a higher pillow. Because when you lie down your chest feels sore and heavy". (P01)

### Theme 2: Psychological barriers

This theme described how post-ACS participants experienced psychological barriers in the transition from hospital to home, including stress, fear, anxiety, and denial. Stress experienced by 2 participants was caused by heart disease, a sense of denial about the disease, being unable to reconcile with their condition, and heart attacks experienced at a young age or productive age. The younger participants (40-50 years old) had higher perceived stress than those older than participants who were older than 60 years. Here are quotes from participants:

"When I am stressed, I think about my illness. I am stressed because I cannot make peace. I am still in denial.... how come... at a young age I have to be like this." Especially when I access Facebook, there is an article about this artist dying and I feel like I want to cry, as if I will experience it tomorrow.. " (P04)

The fear experienced by the participants was caused by the fear of having to be hospitalized and the fear of having repeat hospitalizations. In addition, some participants also felt a decrease in their ability to carry out

**Table 1. Participant characteristics (n=15).**

Characteristics	n
<b>Gender</b>	
Male	12
Female	3
<b>Aged (years)</b>	
41-50	2
51-60	7
61-70	6
<b>Educational Background</b>	
Junior High school	2
Senior High School	11
Higher education	2
<b>Employment</b>	
Yes <sup>a</sup>	4
No	11
<b>Marital Status</b>	
Married	15
<b>Risk Factors</b>	
Smoking	12
BMI > 30	2
LDL Cholesterol > 5.7	1
<b>Co-morbidity</b>	
Yes	5
No	10
<b>Number of Cardiac Event</b>	
First event	4
Second event	9
Third event or more	2

BMI: Body mass index; LDL: Low-density lipoprotein

<sup>a</sup>: Hypertension, diabetes mellitus.

**Table 2. The link between theme and sub-theme.**

Sub-theme	Theme
Dyspnea Chest pain Palpitation Side effect medication	Physical barriers
Anxiety Stress Fear Denial	Psychological barriers
Coronary disease Diet Heart attack intervention Complementary therapy Medication	Lack of knowledge
Return to work Smoking cessation Daily activity Medication adherence	Low adherence

activities after hospitalization. Participants had not been able to return to their normal activities. They were afraid to return to their activities. Another fear felt by the participants was the fear of the emergence of medical side effects when consuming it continuously. Furthermore, two participants experienced anxiety related to family factors, such as unmarried children or children who have not worked.

### Theme 3: Lack of Knowledge

This theme described several participants' lack of knowledge of cardiac care after post-cardiac care. These knowledge barriers included (1) coronary disease, (2) diet, (3) heart attack intervention, (4) complementary therapy, (5) medication, and (4) return to work. Participants felt they lacked knowledge about coronary heart disease, types of coronary heart disease, cardiac rehabilitation, and what to do when having a heart attack. The following is a participant's quote about actions during a heart attack:

"...I give *Minyak Angin* (English: herbal oil) and I massage it on the back. I massage it on the back..." (P09)

In addition, the participants also did not understand the diet, such as what consumption was allowed and not allowed, meal portions, and frequency of eating. Two participants also did not know about complementary or alternative therapies such as herbs as combination or drug

replacement therapy. Two participants received information on treatment using herbs from their friends. Furthermore, participants also did not understand the aspect of knowledge related to drug side effects. Those who worked and were in the productive age, especially laborers, did not know when to start working again and did not know what to do after recovery. They could work again as laborers or had to change jobs. The following is a quote from a participant:

"...to walk up the hill because in front of my house it goes up to the road until the top. I am gasping. Is it forever or a recovery? For example, if my energy is good, I stop my medicine. How do I change herbs?" (P10).

### Theme 4: Low Adherence

This theme illustrated the low adherence of some participants, especially in terms of smoking cessation, daily activities, and medication adherence. Five participants had a history of smoking and had quit several years before having a heart attack. Seven participants who were smokers had the intention of stopping smoking since they had a heart attack. However, two participants had not been able to stop smoking after a heart attack, even though the frequency of smoking and the number of cigarettes were reduced. The following is a quote from the participant:

"due to this pain... yesterday I avoided smoking, but I had a hard time for it. At least after eating, I smoked..." (P10)

Some participants still lacked compliance with carrying out daily activities during the transition period, such as lifting objects, such as lifting a bucket filled with water, or lifting a dipper while taking a shower. Furthermore, all participants still took medicine in the first week of the treatment transition period. However, some participants were getting bored and thought of stopping, or thought that the medicine could be replaced with herbal therapy, thus they did not need to take it continuously. It is especially true for participants who had more than three heart attacks. Therefore, they had been taking drugs for a long time. Nonetheless, participants who had a heart attack for the first time tended to be obedient in taking their medicine.

## DISCUSSION

Patients in the care transition period from hospital to home experienced several barriers, including physical, and psychological aspects, lack of knowledge, and lack of compliance. It will affect the outcome of patients after ACS. The physical barriers experienced by the participants included dyspnea, chest pain, palpitations, and the side effects of the treatment after returning home. It is in line with previous studies revealing that post-myocardial infarction patients had traumatic experiences due to many changes in their bodies.<sup>11</sup> There was also a response from patients who wanted to ignore the symptoms and signs of the disease and wanted to live as normally as possible.<sup>12</sup> This condition requires adequate assistance and education from health workers. In brief interviews before hospital discharge, focusing on patients' goals, resources, and barriers to future change may help patients reflect on their daily lives after their myocardial infarction.<sup>13</sup>

Post-ACS patients experienced psychological barriers after treatment, such as anxiety, stress, and fear. Anxiety has a much more significant impact on the progression of coronary artery disease than its clinical correlates. Patients with two or more hospitalizations for coronary heart

disease with a new hospitalization have higher anxiety levels.<sup>13</sup> Anxiety is related to gender, stress, and educational period while depression is related to gender, diabetes mellitus, obesity, educational period, and trait anxiety.<sup>11</sup> In other studies, during the first five years after index PCI, anxiety levels are positively associated with survival mode and reduce the risk of major cardiovascular events (MACE).<sup>14</sup>

When it comes to the sudden onset of cardiac events, psychological stress triggers a cascade of physiological responses that can later trigger ACS in CAD patients. Acute mental stress (via the autonomic nervous system and neuroendocrine response) causes platelet activation and an increase in platelet count, and the development and worsening of endothelial dysfunction, an inflammatory response, and pro-thrombotic effects.<sup>12</sup> It is in line with previous studies revealing that patients' perceptions of the incidence of heart attacks developed over time from uncertainty, anxiety, and depression. In the self-management phase, perception is frequently associated with a lack of knowledge about heart conditions.<sup>4</sup> Participants who have a positive attitude are more likely to overcome the challenges posed by their cardiac disease and make the necessary changes to live a healthier life.<sup>15</sup>

The lack of knowledge, especially about cardiac care after returning from the hospital, was still felt by some participants. It must be anticipated by providing adequate education according to the needs of the patient and family upon discharge from the hospital. The knowledge includes recognizing the symptoms of a heart attack and the initial action that must be given to the patient. This information must be given to patients and families because responses are significant when a heart attack occurs.<sup>16,17</sup> In general, standards address the need for a written discharge summary to be delivered to the clinician who will assume care after discharge. The educational training includes educating patients about their diagnosis, hospital course, and future medical needs; medication reconciliation; and arranging post-discharge services such as follow-up appointments.<sup>1</sup> Health education is a critical component of treatment. This

aspect can include various strategies for promoting behavioral change, and the barriers and resources needed to deliver effective health education.<sup>18</sup>

Moreover, the lack of adherence to some participants in terms of smoking cessation, daily activity, and medication adherence is an obstacle in transitioning care from hospital to home. Age, gender, employment status, ACS subtype, number of co-morbidities, and number of prescription medications taken per day are six factors that may influence patients' medication adherence.<sup>19</sup> Low adherence is caused by a variety of factors, including low motivation, forgetfulness, a lack of medication education, the complicated polypharmacy of ACS regimens,<sup>20</sup> (fear of) adverse side effects, and a lack of practical support.<sup>21</sup> Furthermore, essential components of the psychosocial context preceding the ACS, such as major role transitions and conflict with close contacts, place ACS patients at an increased risk for poor medication adherence of depressive symptoms.

On the other hand, compliance to quitting smoking is not an easy thing for some smokers. In contrast, patients in a Japanese study had a high confidence level in smoking cessation, alcohol restriction, and medication adherence (confident or completely confident, > 75%). However, they had a low level of confidence (50%) in maintaining blood pressure control, a healthy diet, a healthy body weight, and regular exercise (three times per week).<sup>22</sup> Traditional risk factors, particularly hyperlipidemia and smoking, are prevalent in young patients with the acute coronary syndrome.<sup>23</sup> Based on a study in the Netherlands, 31% still smoked after hospital discharge. The intention to (permanently) abstain from smoking, as measured 2 to 4 weeks after a cardiac event, is primarily determined by attitude, self-efficacy, and craving.<sup>24</sup> Patients who have already quit smoking are likely to base their decision to stop smoking permanently on their previous experiences.<sup>24</sup>

Concerning this case, nursing support can improve health outcomes and lower the risk of a new cardiac event in cardiac rehabilitation patients. Nurses must meet patients' rehabilitative care needs through

education, support, supervision, and reinforcement.<sup>25</sup> Nurses' role in the care of post-ACS patients is to educate both ACS patients and their families.<sup>26</sup> Therefore, nurses play a vital role in the discharge planning process to support the care transition.<sup>27</sup>

The limitation of this study is that data collection is not carried out face-to-face due to the Covid-19 pandemic conditions. Researchers cannot ensure the comfort of the environment during interviews. Researchers only provide suggestions for conducting interviews so that they are in a comfortable place and free from environmental disturbances.

## CONCLUSION

Participants experienced dyspnea, chest pain, palpitations, and treatment effects on the days after returning home. Moreover, post-ACS patients experienced psychological barriers after treatment, such as anxiety, stress, and fear. Lack of adherence to smoking cessation, daily activity, and medication adherence was an obstacle in transitioning care from hospital to home. Physical, and psychological aspects, lack of knowledge, and lack of compliance would affect myocardial infarction outcomes in ACS patients. At the time of discharge need for a new approach to communicating with patients, educating patients and families, and preparing for ACS patients. The findings of this study will help nurses better understand the barriers of transitional care from the hospital to the home. Besides, further research needs to develop interventions in the care transition to minimize the barriers.

## DISCLOSURE

### Conflict of Interest

The authors declare no conflict of interest regarding the publication of this article.

### Funding

This project is financially supported by Research funding from the Ministry of Research and Technology/National Agency for Research and Innovation (Kemenristek-BRIN) (Grand number: 4/E1/KP.PTNBH/2021) Republic of Indonesia, and Universitas Muhammadiyah Yogyakarta

### Ethics Approval

The ethical clearance was obtained from the Faculty of Nursing Universitas Airlangga No. 1915-KEPK.

### Author Contribution

All authors have contributed equally in the preparation of the manuscript, seen, revised, and approved the final version of this manuscript.

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