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## Relationship between patient group participation and self-care agency among patients with a history of cardiac surgery: A cross-sectional study

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## ABSTRACT

**Background:** Little is known regarding the influence of participation in patient groups on self-care in patients with a cardiac surgery history.

**Objectives:** To investigate the relationship between patient group participation and self-care among patients with a cardiac surgery history.

**Methods:** Participants were 956 patients with cardiac surgery history from a patient group. Information on self-care agency, patient group participation, and health status was collected through a self-administered questionnaire.

**Results:** There were 566 valid responses. Participants were mostly male (76.4%), and the mean age was 70.6 years. A high social support level from a patient group was associated with each subscale of the self-care agency as follows: self-care operations (odds ratio [OR] 1.08, 95% confidence interval [CI] 1.04–1.12), adjusting one's condition (OR 1.04, 95% CI 1.01–1.07), and attention to self-care (OR 1.05, 95% CI 1.02–1.07).

**Conclusions:** Patient group participation may promote self-care performance in patients with a cardiac surgery history.

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## Introduction

Cardiovascular disease is one of the most serious and significant health problems worldwide. In Japan, the number of cardiac surgeries has been increasing,<sup>1</sup> and approximately 60,000 cardiac

surgeries were performed in 2014.<sup>1</sup> Patients with cardiovascular disease encounter various physical, psychological, and social problems after surgery.<sup>2</sup> These problems often occur long after surgery, and patients require long-term, attentive self-care at home.

Effective interventions to promote self-care have been explored in several studies. However, promoting self-care in patients with cardiovascular disease has proved challenging.<sup>3,4</sup> A recent review regarding self-care strategies to prevent cardiovascular disease found that optimizing provider support of self-care and joining social and community support groups are effective strategies to promote self-care.<sup>5</sup>

Self-care is defined by Orem as “activities required to preserve one's life, health, and well-being.”<sup>6</sup> It has been pointed out that self-care is important for patients who have undergone cardiac surgery in order to prevent postoperative recurrence of myocardial infarction, additional surgery, and premature death.<sup>7</sup> Self-care also enables patients to adapt to their new life situations.<sup>7</sup>

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Orem et al introduced the theory of self-care deficit positing two patient variables (self-care agency and therapeutic self-care demand) and one nurse variable (nursing agency).<sup>6</sup> Among the multiple concepts related to self-care, self-care agency refers to the ability to engage in self-care. Self-care agency is defined as “the complex acquired capability to meet one’s continuing requirements for care of self that regulates life process, maintains or promotes integrity of human structure and functioning and human development, and promotes well-being.” Because self-care agency can be developed in the course of day-to-day living through the spontaneous process of learning,<sup>6</sup> several studies have explored the factors influencing self-care agency.<sup>8–11</sup>

One such factor is social support.<sup>12</sup> Social support has been defined and measured in various ways. According to House, social support is the functional content of relationships and can be provided by various sources<sup>13</sup>; one such source is a patient support group, which is a group of patients who have undergone or are undergoing similar experiences. It is well known that patient mutual support is effective for individuals who have long-lasting health problems<sup>14,15</sup> or mental health difficulties.<sup>16</sup> It allows individuals to better cope with situations through mutual help. For example, members of Alcoholics Anonymous help one another to stop drinking through a strong patient mutual support mechanism.<sup>17</sup> Patient group may also help patients with a history of cardiac surgery to promote their self-care agency.

To date, despite the accumulation of evidence on the beneficial effect of patient group in patients with chronic conditions,<sup>18</sup> few studies have been conducted on patient group for patients with a history of cardiac events.<sup>19,20</sup> A recent qualitative study on patient mutual support for cardiac patients emphasized the importance of social support focusing on heart care.<sup>21</sup> A previous study on patient group for patients with cardiac conditions did not examine the influence of patient group and self-care.<sup>22</sup>

Therefore, the present study aimed to examine the relationship between patient group and self-care agency among patients with a history of cardiac surgery. We hypothesized that patient group variables—social support, activities, and reading newsletters—would be associated with self-care agency (see Fig. 1).

## Methods

### Participants

The study participants were recruited from a total of 956 members of a hospital-based patient group for those with a history of cardiac surgery. The patient group aimed to provide an opportunity for members to share information and interact with other members; the patient group also aimed to promote social activity among members. Upon discharge, patients would receive an

invitation to join the group, and they would become a member after completing an application and sending it back with a membership fee of 3000 Japanese yen (approximately 26 US dollars) per year. A 2-h general meeting takes place annually. Approximately 200 members gather at this event and exchange their own experiences with one another. Other events that occur 2 to 3 times per year include nutrition classes and outdoor activities such as hikes and trips to hot springs. Members participate in these event activities as they wish, and usually, there are 50–200 participants for each activity. Moreover, all members receive quarterly newsletters, in which topics, such as members’ experiences after discharge and advice from health care providers, are covered. All members can contribute an essay or an article relating their own experience to the newsletter. Approximately half of the newsletter contents consists of essays and articles describing members’ experiences.

### Procedure

Upon locating the patient group in the suburb of Tokyo, we met the president of the patient group to discuss this study. At the patient group annual meeting, the president introduced this study to the members, and we explained the outline of this study. Questionnaires were mailed to members between August and October 2007 along with the regular newsletter, a request for cooperation from the president, and a postage-paid envelope. Postcard reminders to return the questionnaires were mailed to the members 1 month later.

### Measures

#### Conceptual framework

Based on a literature review, a conceptual framework was developed for this study and is shown in Fig. 1. Patient group participation, demographic characteristics, and health status were used as independent variables, while self-care agency was used as the dependent variable. The questionnaire included items reflecting self-care agency, patient group participation, and demographic and health variables.

#### Self-care agency

Self-care agency was assessed using the Self-Care Agency Questionnaire (SCAQ) for patients with chronic illness,<sup>23</sup> which is a 29-item scale. Several scales measuring self-care agency have been developed; however, several do not specify the target population.<sup>24</sup> While the number of subscales varied from 2 to 6,<sup>25</sup> Orem identified 5 sub-concepts as follows: the ability to attend to specific things and to understand their characteristics and the meaning of those characteristics; the ability to apprehend the need to change or regulate things observed; the ability to acquire knowledge of an appropriate course of action for regulation; the ability to decide what to do; and the ability to act to achieve change or regulation.<sup>6</sup> Based on these data, we chose to use SCAQ scale for patients with chronic illness that includes the following 4: 1) self-care operations (10 items, sample question [I continue doing good for health]), 2) adjusting one’s condition (7 items, sample question [I take a rest when I find a poor physical condition]), 3) attention to self-care (7 items, sample question [I pay attention to the checkup results]), and 4) receiving appropriate support (5 items, sample question [there are people who encourage me]). Each item was rated using a 5-point scale ranging from 1 (“I do not agree”) to 5 (“I agree”).

Each subscale score was calculated by summing the item scores. A high score indicates high self-care agency. The face validity, known-groups validity, internal consistency, and test-retest reliability of this scale have been tested and confirmed in patients with cardiac disease, hypertension, or diabetes.<sup>23,26</sup> The Cronbach’s

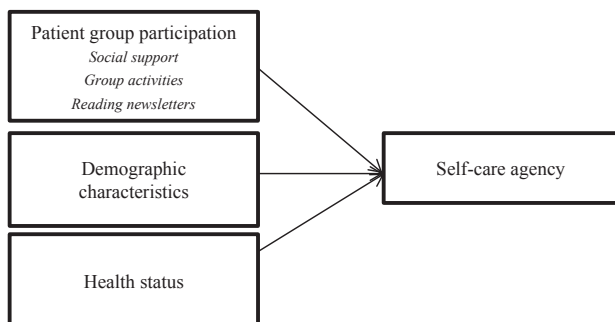


Fig. 1. Conceptual framework.

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