



## Original Article

# Patient and Family Perspectives on Early Mobilization in Acute Cardiac Care

Caroline Najjar, BSc,<sup>a</sup> Diana Dima, BSc(N), CCN(C), MSc,<sup>b</sup> and Michael Goldfarb, MD, MSc<sup>c</sup>

<sup>a</sup> McGill School of Medicine, Montreal, Quebec, Canada

<sup>b</sup> Department of Nursing, Jewish General Hospital, McGill University, Montreal, Quebec, Canada

<sup>c</sup> Division of Cardiology, Jewish General Hospital, McGill University, Montreal, Quebec, Canada

### ABSTRACT

**Background:** Emerging evidence indicates that engaging family members in early mobilization may benefit both patients and family members. However, little is known about the effect of patient and family-member experience and perspectives on mobilization in acute cardiac care. Our goal was to assess the perspectives and experience of patients and their family members regarding early mobilization in acute cardiac care, to better understand patient-related barriers to mobilization and assist in the development of mobilization strategies that increase family-member engagement in care.

### RÉSUMÉ

**Introduction :** De nouvelles données révèlent que la participation des membres de la famille à la mobilisation précoce peut profiter aux patients et aux membres de la famille. Toutefois, on en connaît peu sur les effets de l'expérience des patients et des membres de la famille et les points de vue sur la mobilisation aux soins cardiaques de courte durée. Notre but était d'évaluer les points de vue et l'expérience des patients et des membres de la famille quant à la mobilisation précoce en soins cardiaques de courte durée afin de mieux comprendre les obstacles des patients à l'égard de la mobilisation et de

Early mobilization (EM) in acute care involves initiating mobilization as soon as hemodynamic and respiratory stabilization is achieved, generally within the first 24 to 48 hours of hospital admission. Historically, there was concern about mobilizing patients with an acute cardiac condition due to the risk of coronary ischemia and arrhythmia. Recent evidence, however, supports the safety and feasibility of EM in acute and critical cardiac populations.<sup>1</sup> EM is also associated with increased muscle strength and physical function, decreased rates of delirium, shortened critical care duration and hospital length of stay, and reduced incidence of hospital readmissions.<sup>2,3</sup> Despite our current knowledge of the benefits associated with EM, involuntary bed rest and delayed mobilization continue to be a common part of acute cardiology care practice.<sup>4</sup>

Our previous study explored the beliefs, attitudes, and knowledge of cardiovascular healthcare providers about EM.<sup>5</sup> This study identified key healthcare provider barriers to

mobilization, such as inadequate knowledge of the potential benefits of mobilization and patient-level factors. To better understand patient-related barriers to mobilization, there is a need to understand patient and family perspectives on mobilization. Emerging evidence indicates that engaging family members in mobilization may benefit both the patient and the family member.<sup>6,7</sup> Family-member involvement in mobilization empowers family members and can help patients regain their autonomy.<sup>8,9</sup> Increased family-member engagement could additionally help relieve nurse workload, as it is often difficult to prioritize mobilization over other tasks.<sup>6</sup> However, little is known about patient and family member experience and perspective on mobilization in acute cardiac care. Thus, the objective of our study was to understand patient and family-member perspectives of current mobilization practices and to examine patient and family-member willingness to be involved in EM efforts. These results will help define patient-perceived benefits of mobilization and assist in the development of mobilization strategies that increase family-member engagement in care.

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**Ethics Statement:** This study was approved by the institutional research ethics board.

Corresponding author: Dr Michael Goldfarb, McGill University, Azrieli Heart Centre, Division of Cardiology, Jewish General Hospital, 3755 Cote Ste, Catherine Rd, Office E-212, Montreal, Quebec H3T 1E2, Canada. Tel.: +1-514-340-8222; fax: +1-514-340-7534.

E-mail: [michael.j.goldfarb@mcgill.ca](mailto:michael.j.goldfarb@mcgill.ca)

See page 235 for disclosure information.

## Materials and Methods

### Study design

Patient- and family-specific surveys were developed and distributed to patients and their visiting family members in

**Methods:** Patient and family-member surveys were developed to assess attitudes and knowledge about mobilization, family-members' roles in providing care, and mobilization care the patients received. Surveys were distributed to patients and their family members over a 4-month period.

**Results:** A total of 101 participants completed the survey (patients,  $n = 78$ ; family members,  $n = 23$ ). Most patients ( $n = 54$ ; 69.2%) agreed or strongly agreed that early mobilization should be routinely performed. Of 72 patients who underwent early mobilization, 60 (83.3%) felt that mobilization helped their recovery. The majority of family members were interested in being involved with mobilization ( $n = 19$ ; 82.6%). One quarter of family members felt that mobilizing their relatives too soon after admission was potentially dangerous ( $n = 6$ ; 26.1%).

**Conclusions:** Most patients wish to be mobilized early after admission, and family members want to participate in mobilization efforts. These findings should inform efforts to overcome patient- and family-related barriers to mobilization.

contribuer à l'élaboration de stratégies de mobilisation qui accroissent la participation des membres de la famille aux soins.

**Méthodes :** Nous avons élaboré des enquêtes destinées aux patients et aux membres de la famille afin d'évaluer les attitudes et les connaissances à l'égard de la mobilisation, les rôles des membres de la famille dans la prestation des soins et l'expérience des patients quant à la prise en charge de la mobilisation. Nous avons distribué les enquêtes aux patients et aux membres de leur famille au cours d'une période de quatre mois.

**Résultats :** Un total de 101 participants ont rempli l'enquête (patients,  $n = 78$ ; membres de la famille,  $n = 23$ ). La plupart des patients ( $n = 54$ ; 69,2 %) se disaient d'accord ou tout à fait d'accord avec le fait de pratiquer systématiquement la mobilisation précoce. Parmi les 72 patients qui avaient eu une mobilisation précoce, 60 (83,3 %) percevaient que la mobilisation précoce favorisait leur rétablissement. La majorité des membres de la famille souhaitait participer à la mobilisation ( $n = 19$ ; 82,6 %). Un quart des membres de la famille percevaient que la mobilisation trop hâtive de leur proche après l'admission était potentiellement dangereuse ( $n = 6$ ; 26,1 %).

**Conclusions :** La plupart des patients souhaitent être mobilisés de façon précoce après l'admission, et les membres de la famille veulent participer aux efforts de mobilisation. Ces résultats devraient orienter les efforts visant à surmonter les obstacles des patients et de la famille à l'égard de la mobilisation.

the acute cardiac care unit of the Jewish General Hospital, an academic tertiary care centre in Montreal, Canada, from November 2019 to February 2020, as part of a quality-improvement project. The acute cardiovascular ward is a 36-bed unit with single-patient rooms and telemetry capability. An interdisciplinary team composed of physicians, medical residents and students, cardiovascular nurses, nurse practitioners, physiotherapists, and occupational therapists, care for the patient. The nurse-to-patient ratio generally ranges from 1:2 to 1:4, depending on staff availability and patient acuity. Allied health professional availability on weekends, evenings, and holidays is limited. A structured nurse-driven EM program was initiated in February 2018. Nurses received formal training on EM that included training sessions on the benefits of EM, how to perform mobilization, and how to include family members in mobilizing their relatives.<sup>10</sup>

Patients admitted to the acute cardiac care unit were approached near the end of their hospitalization to complete the survey about their experience with the EM program. Consecutive patients were approached for participation on days that the survey was distributed to patients. Family members were also asked to complete the survey while visiting their relatives. To maximize participation, families were approached for participation on weekends, when family members were more likely to visit. Consecutive families were approached for participation on days that the survey was distributed. No exclusion criteria were used for patients or family members. The survey was provided in English or French, according to patient preference. Given that patients who spoke neither language had at least one family member who spoke English or French, no translation of the questionnaire into other languages was needed.

## Survey instrument

Two separate EM surveys were developed ([Supplemental Digital Content](#)). The Patient Mobility Survey was designed for patients and focused on their perspective of the mobilization care they received. The Family Mobility Survey was developed for family members and explored their perspective on the mobilization their family member received and their willingness to take part in their relative's care. The surveys were developed based on the validated Family Satisfaction with Care in the ICU survey (FS-ICU) and the Patient Mobilization Attitudes & Beliefs Survey (PMABS). The FS-ICU survey is a widely used tool to assess family-member satisfaction with care in the intensive care unit.<sup>11</sup> The PMABS survey was designed to evaluate healthcare professionals' knowledge, behaviour, and attitudes toward mobilization.<sup>12</sup>

In both the patient mobility survey and family mobility survey, responses were recorded using a 5-point Likert scale (1 = strongly agree; 2 = agree; 3 = neutral; 4 = disagree; 5 = strongly disagree), as in the PMABS survey. Scale results were transformed to a 0-100 scoring system, with higher scores indicating more barriers to mobilization, and lower scores indicating fewer barriers to mobilization (eg, a Likert score of 1 means a barrier score of 0 to mobility; a score of 5 means a barrier score of 100 to mobility). The family-member survey also included questions on age, relationship with the patient, and whether the family member lives with the patient. Short-answer questions were included in both surveys to assess the type of mobilization received (eg, sitting in a chair, walking in the hallway), as well as what helped and hindered mobilization.

The surveys assessed 4 main categories: (i) attitudes toward mobilization (ie, feelings and opinions toward mobilization); (ii) knowledge of mobilization; (iii) the family-member's role

in providing care; and (iv) mobilization care received in the hospital (ie, frequency and timing of mobilization, healthcare professional help with mobilization). Questions from the PMABS and FS-ICU questionnaires that reflected 1 of these 4 categories were included in the surveys. Each question was assigned to a category in order to calculate the overall score for each category. For example, in the patient survey, “I am too sick to be mobilized” was the item that assessed “attitudes toward mobilization.” The equivalent of this question in the family-member survey was “My family member is too sick to be mobilized.”

Quantitative continuous variables are described with means  $\pm$  standard deviations. Categorical data are presented as frequencies and percentages. Data analysis was done with SPSS 24.0 statistical software (IBM Corp., Armonk, NY). This study was approved by the institutional research ethics board.

## Results

### Patient Mobility Survey

There were 78 patients who completed the survey. Only 3 patients declined to participate in the survey. The mean age was  $73.7 \pm 10.3$  years, and 36 were female (46.2%). The most common primary admission diagnoses were acute coronary syndrome ( $n = 29$ ; 37.1%), heart failure ( $n = 18$ ; 23.1%), and atrial fibrillation ( $n = 11$ ; 14.1%). The overall patient barrier score was 36.1 (Table 1). The highest patient barriers to mobilization were family-member role (40.6), mobilization care received (37.8), knowledge (36.4), and attitudes (33.0).

The majority of patients ( $n = 72$ ; 92.3%) reported being mobilized during their stay, with two thirds ( $n = 53$ ; 68.0%) being mobilized within the first 48 hours of admission (Fig. 1). Most patients ( $n = 51$ ; 65.4%) were mobilized consistently on a daily basis (Fig. 2). Family members and healthcare providers assisted with mobilization in 35 patients (44.9%) and 39 patients (50.0%), respectively. Most patients ( $n = 54$ ; 69.2%) agreed or strongly agreed that EM should be routinely performed, although nearly half ( $n = 37$ ; 47.4%) felt that mobilization soon after admission was potentially dangerous. One quarter of patients ( $n = 19$ ; 26.4%) had concerns about being mobilized, most commonly fear of falling ( $n = 7$ ; 9.7%), worsening their medical condition ( $n = 4$ ; 5.6%), or dizziness ( $n = 3$ ; 4.2%).

Most patients ( $n = 72$ ; 83.3%) felt that mobilization helped their recovery, and no patients felt that EM hindered their recovery (Supplemental Fig. S1). A total of 11 patients (15.3%) felt pain or discomfort when being mobilized. One fifth of patients ( $n = 16$ ; 20.5%) felt that they knew when it was appropriate to start mobilization after their acute heart event. About one third of patients ( $n = 21$ ; 29.2%) felt informed about their mobilization plan.

### Family Mobility Survey

A total of 23 family members completed the survey. No family members declined to participate in the survey. The mean age was  $60 \pm 13.8$  years, and 18 (78%) were female. Family members included 12 spouses/partners (52.2%), 9 children (39.1%), 1 sibling (4.3%), and 1 parent (4.3%).

**Table 1. Perspectives of patients and family members on attitude, knowledge, care, and family-member role**

Survey measure	Patients (n = 78)	Family members (n = 23)
Overall	36.1 (22.7)	38.3 (29.3)
Subscales		
Attitude	33.0 (21.5)	36.5 (27.5)
Knowledge	36.4 (24.5)	52.0 (30.0)
Care	37.8 (22.9)	49.5 (30.0)
Family-member role	40.6 (20.0)	18.1 (19.5)

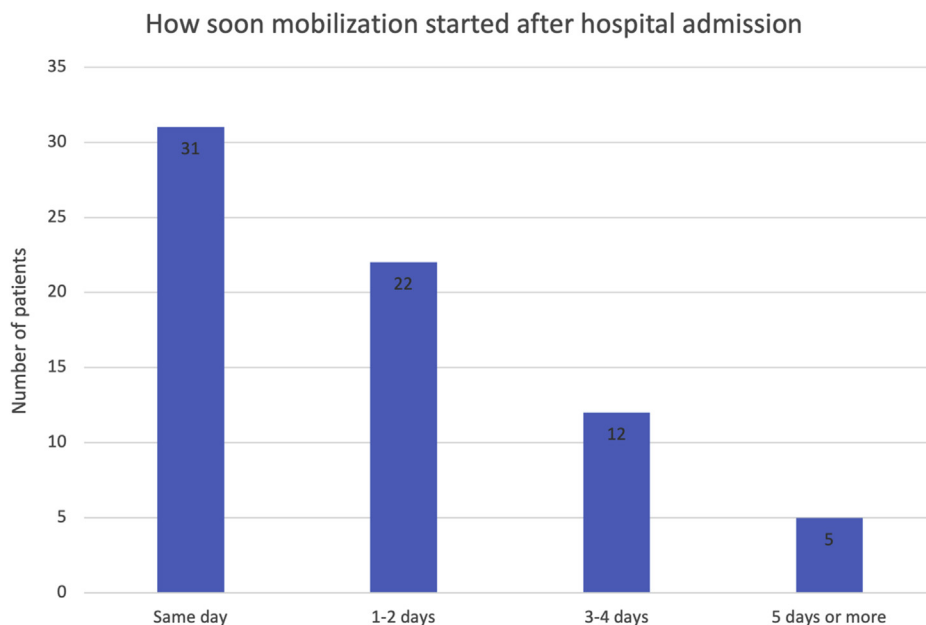
Data are presented as mean (standard deviation) of scores on surveys regarding mobilization barriers. Scale results have been transformed to a 0-100 scoring system, with higher scores indicating greater perceived barrier to mobilization. Subscales are designed to measure the following: attitude = perceptions/feelings/opinions toward mobilization; knowledge = education/knowledge about mobilization; care = evaluation of the care received at the hospital concerning mobilization; family member = the role of family members in mobilizing patients.

Most family members lived with the patient ( $n = 15$ ; 65%). The overall family-member barrier score to mobilization was 38.3, with knowledge being the most significant barrier (52.0), followed by mobilization care (49.5), attitude (36.5), and family-member role (18.1; Table 1). Most family members felt that mobilization should be routinely performed ( $n = 21$ ; 91.3%). Some family members felt that mobilizing their relatives too soon after admission was potentially dangerous ( $n = 6$ ; 26.1%). Most family members ( $n = 19$ ; 82.6%) were interested in learning about mobilizing their hospitalized relative (Fig. 3); however, few family members ( $n = 4$ ; 17.4%) reported having received an explanation or been trained by a healthcare professional on how to mobilize their family member.

## Discussion

Our objective was to assess the patient and family-member perspective and experience with EM in the acute cardiac care setting. We found that most patients and family members agree that EM should be routinely performed. The majority of patients felt that mobilization had a positive impact on their recovery. Most family members were interested in learning about how to properly mobilize the patients but did not receive sufficient education or training on how to do so. Family members felt that the greatest barrier to mobilization was lack of knowledge on mobilization practices.

There is a need to understand contemporary patient and family-member perspectives and attitudes toward mobilizing people with acute cardiac disease. Our current societal conception of mobilization has likely been shaped by the traditional hesitancy to mobilize people with acute cardiac disease. In the 1960s, the standard of care for an acute myocardial infarction involved 6 weeks of strict bedrest.<sup>13</sup> Those who survived the acute care hospitalization often had severe functional limitations from muscle and strength loss, which often persisted well beyond hospitalization. In the 1970s and 1980s, randomized trials comparing earlier mobilization to prolonged bedrest found functional benefits and reduced length of hospital stay in myocardial infarction survivors who were mobilized earlier.<sup>14,15</sup> Yet despite improvements in care, and shorter overall hospital stays over the

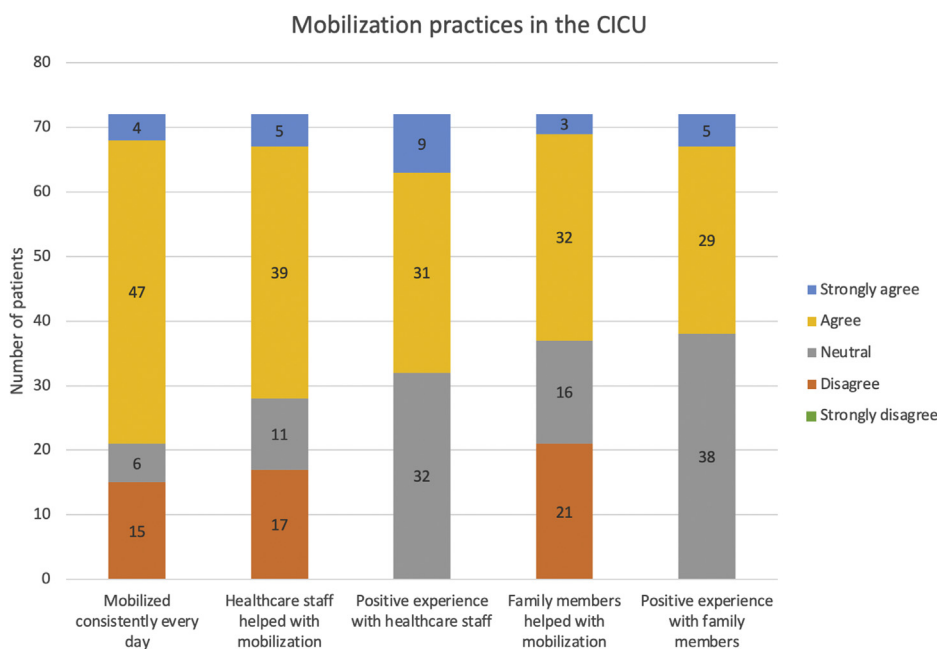


**Figure 1.** Number of days after which patients started mobilizing following hospital admission.

subsequent decades, contemporary studies report that people with acute cardiac disease still spend considerable time resting in bed. People with acute myocardial infarction or heart failure still experience delay in initiation of mobilization and spend more than 70% of their day lying in bed, a percentage that does not increase significantly throughout the hospital stay.<sup>4,16</sup>

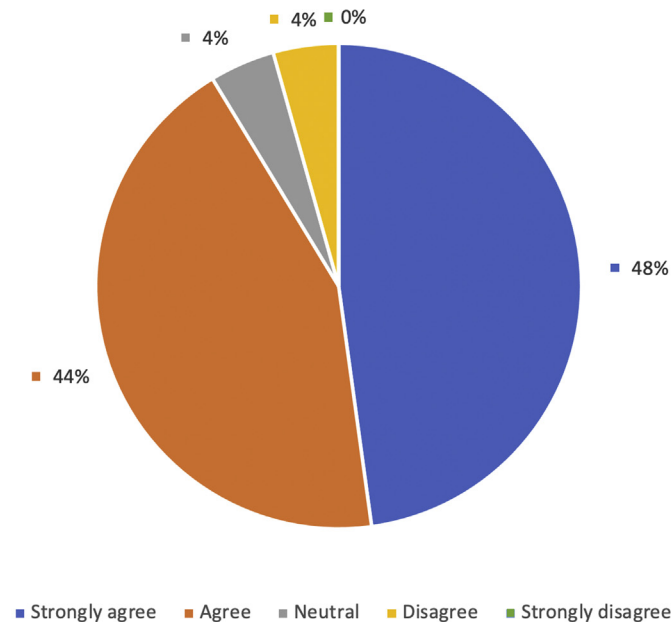
Our study identified patient- and family-related barriers to mobilization. Fear of falling, particularly in older individuals, is a major patient barrier to mobilization and was the top

mobilization concern for patients identified in our study.<sup>9</sup> Our prior study, which examined barriers to mobilization experienced by cardiovascular healthcare providers, found that nurses and physiotherapists identified patient resistance to mobilization as one of the top barriers to mobilization.<sup>5</sup> Many patients take a passive role regarding their mobility. A qualitative meta-analysis of patient and clinician perspectives of mobilization found that patients, especially older adults, wait for nursing staff to instruct them to mobilize.<sup>8</sup> However, many patients express a desire to be more active and feel that



**Figure 2.** Patient perspectives on mobilization practices in the acute cardiac care unit. CICU, cardiac intensive care unit.

## I would like to be involved in helping to mobilize my family member/friend



**Figure 3.** Family-member willingness to help patients mobilize.

they do not move enough during the day, but they do not want to bother nurses, to avoid overburdening them.<sup>9</sup> Unnecessarily prolonged periods of bedrest and inactivity may occur as a result. To increase patient and family-member participation in mobilization, patients and family members can be educated on the safety and potential benefits of EM. Furthermore, family members can be enlisted to directly participate in mobilization to relieve the burden of care from the healthcare providers. Family-member involvement in care may help to communicate the patient's wishes and expectations in terms of their mobilization. Although some patients may be less inclined to mobilize due to a lack of education, others might be hesitant because they do not want to overburden staff. Communication barriers can contribute to lack of proper attention to these concerns and to healthcare staff encountering resistance to mobilization.

Insufficient knowledge about the role and benefits of mobilization is another patient- and family-related barrier to mobilization.<sup>9</sup> Our study found that knowledge about mobilization was the most-reported barrier to mobilization, according to family members. Patients did not feel well informed about when or how mobilization should be done. Nearly half of patients felt that mobilizing too soon after admission could be dangerous to their health. Although most family members were interested in learning about how to properly mobilize their relative, less than a quarter of family members felt they knew when it would be safe to start mobilization. Family members who are informed about the potential benefits of EM feel reassured and are more capable of supporting patient mobilization.<sup>6</sup> Our findings suggest that greater efforts need to be made to teach patients and family members about the benefits and practice of mobilization. Addressing and overcoming these patient- and family-related barriers are needed steps to increase mobilization efforts.

Engaging patients and families in care is an important means to achieve person- and family-centred care.<sup>17</sup> Person- and family-centred care is a concept that acknowledges the importance of putting the patient's beliefs and preferences in the centre of healthcare efforts and recognizing family members as being essential in the patient's care. In this approach, patients and family members are integrated into the healthcare delivery process by including them in the decision-making process and allowing them to take part in patient care when appropriate. Family-centred interventions in intensive care units have been shown to improve patient and family mental health status and increase family satisfaction.<sup>7</sup> Family-based mobilization is a feasible and meaningful engagement intervention wherein family members can directly contribute to care.<sup>1,18</sup> Mobilization programs may also improve person-centred outcomes. One study observing patient, family caregiver, and clinician perspectives on the use of in-bed cycling as a method of mobilization in critically ill children found that family participation in their child's care decreased anxiety, improved satisfaction, and provided emotional and psychological benefits to family members.<sup>6</sup> High-quality randomized studies with person- and family-centred outcomes are needed to strengthen the evidence base supporting family-based mobilization.

Our findings have several important implications. Understanding the perspectives of patients and family members is important in order to assess current mobilization programs and their impact on patients. This insight will help determine how mobilization programs could be improved or better implemented in acute cardiac care settings. Furthermore, it may help nurses and physiotherapists focus on a person-centred care approach in which the specific concerns and wishes of patients are addressed to promote mobilization. Engaging family members in care may help make patients



more comfortable, empower family members, and contribute to decreasing nurse workload. In order for these changes to occur, EM programs should set in place educational initiatives for patients and family members. In addition, healthcare professionals should receive training in person-centred care to further promote the notion that people have different levels of knowledge and expectations when it comes to mobilization. This change could affect the way mobilization is delivered and increase the chance of patient receptivity to mobilization; this can aid in changing the paradigm of mobility culture in acute cardiac care and lead to routine use of a person- and family-centred approach to mobilization.

Our study has limitations that should be considered. First, the study was conducted at a single, academic, tertiary care centre with a pre-existing EM program, and the results may not be generalizable to other institutions or populations. Patients and family members who were involved in the EM program were likely more educated and knowledgeable about mobilization than those in other healthcare settings with no educational EM component. Second, the sample size for the study was small, particularly for family members. Recruitment was halted early due to the onset of the coronavirus disease 2019 pandemic, as there were restrictions on family visitation and research-team access to clinical areas. Family involvement in mobilization was prevented during this time. Allowing one designated “essential” family member to participate in care, including mobilization, has been proposed as a method to maintain care during future pandemics.<sup>19</sup>

Third, the patient and family mobility surveys have not been previously validated. However, relevant questions from previously validated surveys were used to assess the appropriate domains. Fourth, only patients and family members who were willing to complete the survey were included. Although people who completed the survey may have a more favourable attitude toward mobilization and be more interested in engagement in care, many of the respondents reported insufficient understanding of mobilization practices and general knowledge regarding mobilization, resulting in lack of participation in EM care. Although data were not collected on the health and mobility of family members, it is likely that individuals who report that they are willing to help mobilize are physically capable of doing so. A selection bias may also have occurred, as only those who were present on days the survey was distributed were included in the survey. To mitigate this potential bias, consecutive patients and family members were approached for participation on days of survey distribution. In addition, family members who were present may be more likely to be interested in participating in care than those who were not present. However, interventions that seek to increase family participation in care are more likely to be effective at encouraging those who are more often present. Finally, the survey did not account for additional barriers that may affect mobilization, such as cognitive, affective, and physical issues. Future studies could evaluate the impact of these factors on mobilization.

## Conclusions

The majority of patients with acute cardiac disease felt that EM helped with their recovery process. Family members were interested in being involved in mobilizing their relatives.

Although family members felt they lacked knowledge in mobilization activities, they were interested in learning more about EM. Our findings should inform efforts to overcome patient- and family-related barriers to mobilization and increase family-based mobilization in people with acute cardiac disease. Such efforts will help patients regain their autonomy and allow family members to be more involved in their care.

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## Disclosures

The authors have no conflicts of interest to disclose.

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### Supplementary Material

To access the supplementary material accompanying this article, visit *CJC Open* at <https://www.cjcopen.ca/> and at <https://doi.org/10.1016/j.cjco.2021.10.007>.