

**Patient and family perceptions and experiences of same-day discharge following percutaneous coronary intervention and those kept overnight**

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## Abstract

**Objective:** To explore perceptions and experiences of patients discharged the same day (or not) and their family members towards same-day discharge following percutaneous coronary intervention.

**Design and methods:** A qualitative interpretative design. Semi-structured phone interviews were conducted with consented patients who underwent percutaneous coronary intervention, and their family members (n=23). Data were analyzed using a content analysis approach.

**Setting:** This study was undertaken in the cardiac services department of an Australian tertiary hospital.

**Main outcome measures:** Perceptions and experiences of same-day discharge.

**Findings:** A total of 31 patients and 23 family members were interviewed. Two categories emerged from the analysis: communication challenges with hospital staff and perceptions of same-day discharge. Family members were often not provided discharge instructions, and some same-day discharged patients felt vulnerable following discharge. When asked, most participants perceived same-day discharge as a preferred option because of its comfort and convenience. Some expressed uncertainty towards same-day discharge due to feeling anxious and apprehensive. Others misperceived same-day discharge as a signal that their heart problem was fixed without realizing their underlying chronic health conditions.

**Conclusion:** Most patients and family members perceived same-day discharge as a preferred option. However, strategies are needed to support their transition from hospital to home, therefore, recognizing and improving their long-term disease management.

## **Keywords**

Experiences, patient discharge, perception, percutaneous coronary intervention, same-day discharge.

## **Implications for practice**

- Same-day discharge is perceived as a preferred option for most patients and family members.
- Communicating early with patients and family members about the possibility of same-day discharge can help them to better prepare patient care post-discharge.
- Patients and family members need to be involved in cardiac education from the beginning of the care trajectory to discharge; during the period between the percutaneous coronary intervention completed and before patient discharge, discharge instructions should be given to both patients and family members.
- Patients and family members need to be supported during the transition from the hospital to home, therefore, optimizing the patient long-term disease management skills.
- The eligibility criteria should be reviewed and expanded where appropriate to ensure more patients have the potential to benefit from this change in the model of care.

## **Introduction**

Coronary heart disease (CHD) is the leading cause of death and the major cause of morbidity and disability that exerts a heavy burden on healthcare systems (Mozaffarian et al., 2015; Roth et al., 2017). The growing costs are partially attributable to the increasing use of percutaneous coronary intervention (PCI) as a treatment option for obstructive CHD. It has been estimated that 3 million PCI procedures are performed each year worldwide (Gerber et al., 2007). In Australia, approximately 32,780 PCI procedures were performed in 2013 based on the latest available evidence from the Australian Institute of Health and Welfare (AIHW) (2016); a 50% increase from 2000 (Davies & AIHW, 2003).

The traditional model of care for patients who have undergone PCI requires patients to stay in hospital overnight (Shroff et al., 2016). However, same-day discharge (SDD) following PCI has emerged as a new discharge strategy to optimize the use of hospital resources. Discharging patients home the same day following PCI has been demonstrated to be as safe as an overnight stay (Bundhun, Soogund, & Huang, 2017) and is an approach recommended by the Society for Cardiovascular Angiography and Interventions (Seto et al., 2018). The benefits of SDD are multifaceted which include the potential to minimize unnecessary use of inpatient beds, increase bed availability, improve the hospital admission process (Shroff et al., 2016), and decrease healthcare costs (Amin et al., 2018).

Patients have also expressed a preference for being discharged the same day as their procedure and have reported being satisfied with SDD. Most researchers evaluated patient satisfaction by comparing SDD with overnight stay patient groups (Glaser et al., 2009; Heyde et al., 2007; Kim et al., 2013; Knopf et al., 1999); while others only

assessed the satisfaction of patients who were sent home the same day (Amin et al., 2018; Le Corvoisier et al., 2013; Ziakas et al., 2004).

Patients' family members provide essential support for patients who go home the same day after they have undergone PCI. Previous studies (Amin et al., 2018; Heyde et al., 2007; Kim et al., 2013; Knopf et al., 1999; Le Corvoisier et al., 2013; Ziakas et al., 2004) mainly focused on evaluations of satisfaction with SDD from the perspective of patients, rather than of both patients and families. Family members' perceptions of the SDD process are equally important because of the requirement for a patient being discharged home after PCI to have a responsible adult remain with them overnight (Seto et al., 2018). Therefore, it is imperative to involve family members in the SDD process and understand their perceptions and experiences so that the processes can be enhanced.

This paper reports part of the qualitative component of patient and family perceptions and experiences of SDD in a larger process evaluation study, which was conducted in parallel to a hospital-led implementation of SDD. Quantitative process evaluation data, including patient selection process, SDD guideline compliance, and patient and family satisfaction with SDD, as well as the factors influencing the implementation of SDD, have been analyzed and reported elsewhere (citations will be inserted after this blinded review).

## **Method**

### *Objective*

The aim of the study was to explore perceptions and experiences of SDD following PCI, from the perspectives of patients discharged the same day and those kept overnight and their family members.

### *Design*

This is an interpretative qualitative study. The consolidated criteria for reporting qualitative research (COREQ) (Tong, Sainsbury, & Craig, 2007) were followed when writing this paper.

#### *Setting and study context*

The study was undertaken in the cardiac services department of an Australian tertiary hospital. When this study was commenced, there were approximately 600 PCIs performed each year in the cardiac catheterization suite. The suite comprised the preadmission clinic, two laboratories where coronary interventions were performed, and the short-stay unit where patients were cared for before and after the procedure. The implementation of SDD occurred between June and December 2016.

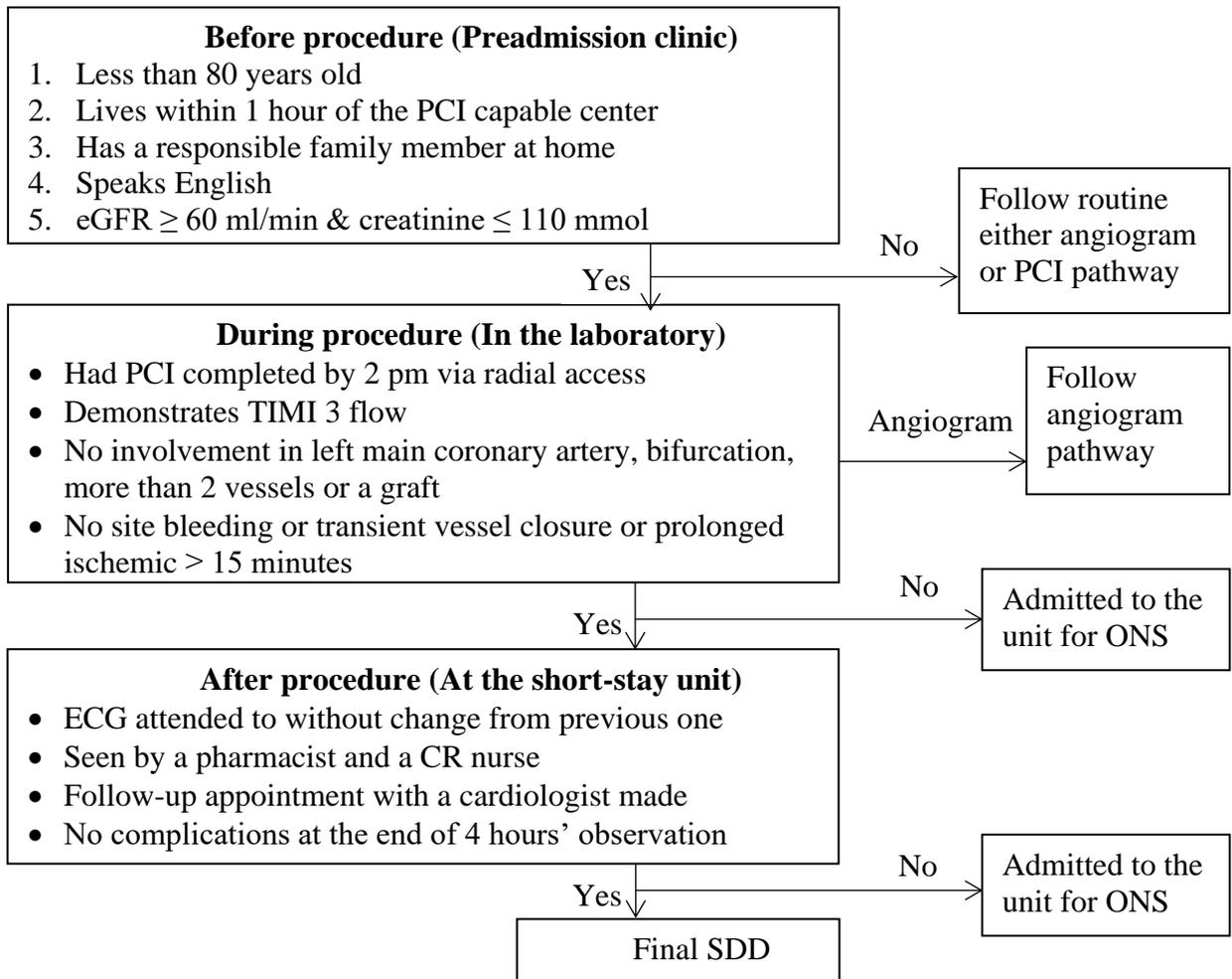
#### *Ethical approval*

The study was approved by the human research ethics committees (HREC) of the hospital, and the university (HREC numbers will be inserted after this blinded review). The investigation conforms with the principles outlined in the Declaration of Helsinki (Br Med J 1964; ii:177).

#### *Same-day discharge process*

Patients were assessed for eligibility of SDD based on the inclusion criteria by hospital staff at three points (before, during, and after the procedure) (Figure 1). These eligibility criteria guided the clinicians' decisions about whether a patient could be discharged the same day he/she underwent PCI. A femoral approach automatically excluded the patient from SDD. After the procedure, the patient was observed for 4 hours in the short-stay unit and sent home the same day if no complications arose during

this observation period. As per the SDD guidelines, both a cardiac rehabilitation nurse and a pharmacist should see the patient before discharge.



Abbreviations: CR, cardiac rehabilitation; ECG, electrocardiography; eGFR, estimated glomerular filtration rate; ONS, overnight stay; PCI, percutaneous coronary intervention; SDD, same day discharge; TIMI, thrombolysis in myocardial infarction.

Figure 1. Same-day discharge criteria

During SDD guideline development, a decision was made for nursing staff to ask family members to arrive at the cardiac services department about 15 minutes before patient discharge so the nurse could provide verbal and written discharge

instructions, based on the institution's "discharge and wound care instructions".

Specific guidance on how nurses were to convey discharge information were not contained within the SDD guideline.

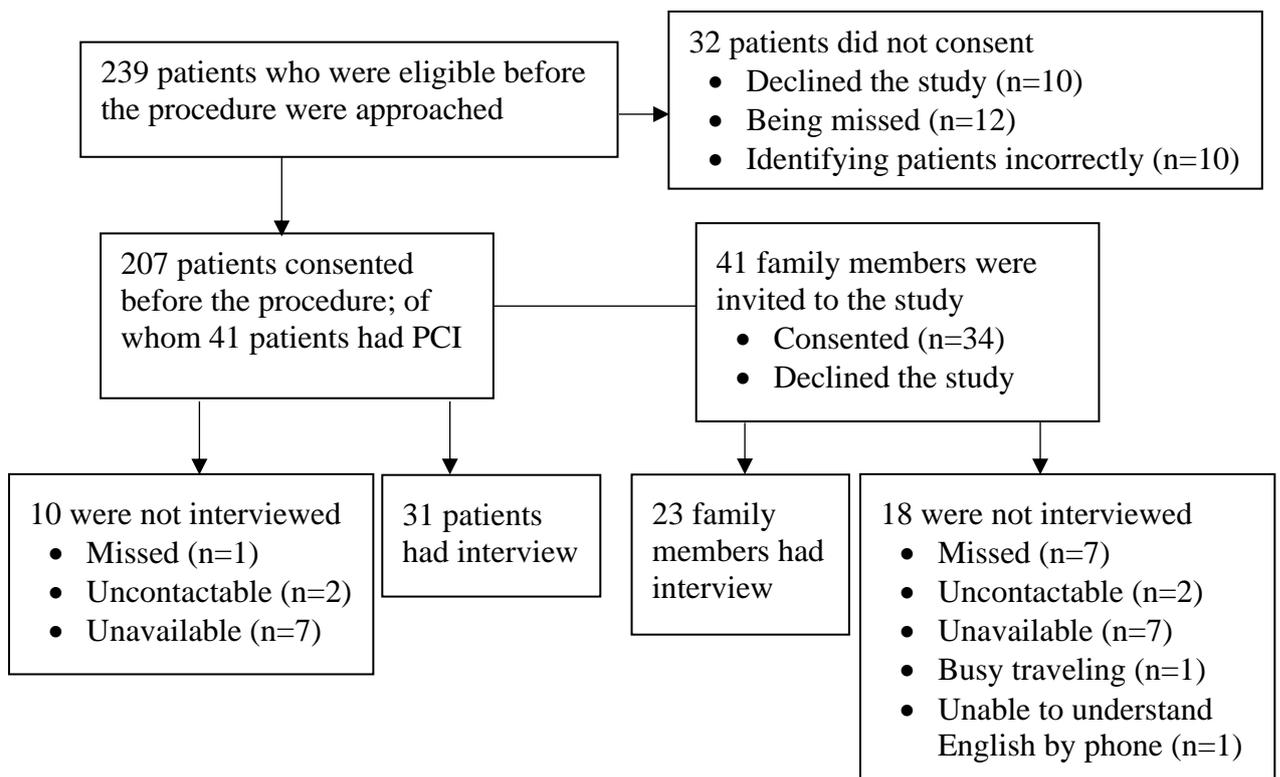
#### *Participants and recruitment*

Consecutive patients who were eligible for SDD before the procedure and their family members were invited to the study if they were aged 18 years and over, and were able to communicate verbally and in writing in English. Consecutive patients were those who arrived in the cardiac services department for an angiogram  $\pm$  PCI or planned PCI. However, only patients who had PCI subsequently (regardless of being discharged home the same day or not) and their family members were asked to participate in interviews. Therefore, participants could include family members and those patients who were sent home the same day of their PCI as well as those who were initially eligible for SDD but who stayed overnight owing to a femoral PCI or development of complications during or post the procedure. Those patients who stayed overnight were included because they had experienced some components of the SDD process; therefore, their part of perceptions and experiences of SDD were also important to explore. In this study, "family" was a collective and broad term inclusive of blood relatives and close friends who provided support for patient care following discharge.

The first author approached patients and family members who met study eligibility criteria, either face-to-face at the preadmission clinic or by phone. The first author introduced herself to the participants, explaining that she was a cardiac nurse and that her current role was a novice researcher. All participants were provided a study information sheet and had the study verbally explained to them. They were also explained that if only an angiogram was performed, then the patients and their family

members were no longer eligible for the study. All eligible patients provided informed consent for the study before the procedure. Family members (if present with patients) were asked to sign the consent only when their family member had subsequently undergone PCI.

The consenting process was detailed in Figure 2. Briefly, a total of 239 patients who were eligible for SDD were approached before the procedure to participate in this study, of whom 207 consented to be involved in the study. Of the 207 consenting patients, 41 subsequently underwent PCI, and 31 participated in interviews. Of the 41 patients who underwent PCI, 23 family members participated in interviews.



Abbreviations: PCI, percutaneous coronary intervention.

Figure 2. Consenting process

### *Data collection*

Before patients' discharge, patients' and family members' demographic information such as age and gender were collected. Semi-structured phone interviews with patients and their family members were then conducted within seven days of discharge, with qualitative data used to gain rich insight into their perceptions and experiences of SDD during the SDD process and the recovery at home. Phone interviewing was chosen because patients and family members were no longer in the hospital at the time of the interview. All patients and family members were at home while being interviewed by phone. It remained unclear if anyone else was present beside them when the interview took place. The data were collected by the first author, who was supervised by two experienced qualitative researchers. Although she worked as a cardiac nurse where the study took place, she did not provide care to patients enrolled in the study.

The semi-structured interviews incorporated both open- and closed-ended questions and generated both quantitative and qualitative data (see details in Appendix A). The guide included questions on how patients and family members perceived SDD when it was first offered, their preparation for SDD, how and when they received cardiac education and discharge instructions, and any challenges experienced and their confidence level on the night following discharge. The interviews were tested prior to use among three academic staff, who pretended to be patients and family members with the suggestions made subsequently. The purpose of the testing was to explore the language appropriateness, the clarity of the questions, and aspect of active listening (McGrath, Palmgren, & Liljedahl, 2019). Following each interview, a contact summary was written immediately to increase data accuracy. Interview durations were between 5

and 15 minutes, with no repeated interviews. All interviews were recorded digitally and transcribed verbatim by a professional transcription service. No transcripts were returned to the patients or family members for comments or corrections.

### *Data analysis*

Inductive content analysis (Elo & Kyngas, 2008) was conducted to analyze the data about patient and family perceptions and experiences of SDD. Data analysis was commenced during the data collection (Polit & Beck, 2012), through which the understanding of the data that evolved informed the forthcoming interviews. Nvivo (QSR version 11) was used to manage data analysis (QSR International, 2017) by ensuring access to each code and category in the full text of interview transcripts.

Inductive content analysis (Elo & Kyngas, 2008) was used to analyze the data about patient and family perceptions and experiences of SDD. The first author listened and re-listened interview digital recordings, and read and re-read the contact summary many times until she became familiar with and submerged in the data. The inductive content analysis involved open coding, grouping, categorization, and abstraction (Elo & Kyngas, 2008). Following open coding, several subcategories descriptive of patient and family perceptions and experiences were developed separately and grouped under higher order headings (category) (see an example in Table 1). Two other researchers reviewed the transcripts and discussed the codes, sub-categories, and categories that were generated by the first author during their routine meetings with the revisions undertaken, where necessary, to achieve consensus. Further abstraction resulted in the determination of the two main categories, which are communication challenges with hospital staff and perception of SDD.

Table 1: An example of an audit trail

Example: interview data	Codes	Sub-categories	Categories
<ul style="list-style-type: none"> <li>• That was incredible.</li> <li>• Oh, I was over the moon.</li> <li>• I thought it was wonderful idea.</li> <li>• I felt pretty good about it.</li> <li>• I was excited, normally.</li> <li>• I was really happy about it.</li> <li>• Very positive that that's going to happen.</li> <li>• Yeah, well I was quite happy with the fact that I could possibly be going home the same day, familiar surroundings, slept in my own bed. I was quite open to the idea.</li> <li>• I wanted to come home because I am much more comfortable in my own bed.</li> <li>• It was more convenient.</li> <li>• It's more reassuring and that you've got the comfort of your own home type of thing.</li> </ul>	Incredible Over the moon Wonderful Good Excited Happy Positive  Familiar Open Comfortable  Convenient Reassuring	Going home same day is a positive experience	Perceptions of same-day discharge

*Rigor*

Rigor was maintained in this study by ensuring credibility, confirmability, transferability, and dependability (Lincoln & Guba, 1985). Frequent meetings within the research team achieved credibility. For instance, the first author was challenged by the other two researchers to demonstrate how codes and categories were accurately reflected in the data and echoed the participants' voices. To ensure confirmability, the first author practiced reflexivity (Polit & Beck, 2012) by making notes about how her roles (both a cardiac nurse and a novice researcher) might have influenced the participants' responses and the findings of the study. The study was not intended for generalization; however, some of the findings are undoubtedly relevant to other clinical areas and contexts as a result of comprehensive data reporting. Finally, the first author

maintained an audit trail of the research process, decisions, and analysis to promote the dependability of the study.

## Findings

### *Patient and family demographics*

A total of 31 patients (17 SDD and 14 overnight stays) and 23 family members (15 from SDD patients and eight from overnight stay patients) participated in interviews, generating approximately 260 minutes of data. The mean age of patients was 66 years, and most patients were male (83.9%, n = 26) and received year 12 education or less (80.6%, n = 25); the mean age of family members was 65 years, and the majority were female (82.6%, n = 19). More than half (71.1%, n = 22) of patients were in a committed relationship (either married or de facto), closely corresponded to the majority (78.3%, n = 18) of family members being partners. Over 50% of patients were current/former smokers, retired/not currently working, and had a medical history of hypertension, high cholesterol, and previous PCI. More details are described in Table 2.

Table 2: Patient and family demographics

	Patients n=31 (%)	Family n=23 (%)
Age (mean, SD)	66 (7.9)	65 (8.6)
Male	26 (83.9%)	4 (17.4%)
Family members	NA	
Partner		18 (78.3%)
Parent		1 (4.3%)
Sister		1 (4.3%)
Child		1 (4.3%)
Friend		2 (8.7%)
Married/De facto	22 (71.1%)	NA
Current/former smoke	17 (54.8%)	
Highest education: year 12 and less	25 (80.6%)	14 (60.9%)
Employment: retired/ not currently working	19 (61.3%)	13 (41.9%)
Hypertension	21 (67.7%)	NA
High cholesterol	16 (51.2%)	
Diabetes	7 (22.6%)	

Previous PCI	16 (51.6%)
Previous CHD	11 (35.5%)
Previous CABG	3 (9.8%)

*Note:* CABG: coronary artery bypass grafting; CHD: coronary heart disease; NA: not applicable; PCI: percutaneous coronary intervention; SD: standard deviation

The following table (Table 3) shows the findings based on the inductive content analysis approach. Two main categories were generated, including communication challenges with hospital staff and the perception of SDD.

Table 3: Interview findings

Codes	Sub-categories	Categories
<ul style="list-style-type: none"> <li>• Not being notified of possible SDD</li> <li>• Unable to organize transport in advance</li> </ul>	Communication challenges occurred prior to coming to the hospital	Communication challenges with hospital staff
<ul style="list-style-type: none"> <li>• Not being notified of possible SDD within 1-hour of the procedure</li> <li>• Inadequate discharge instructions being given</li> <li>• Feeling overwhelmed following procedure</li> </ul>	Communication challenges occurred during the hospital stay	
<ul style="list-style-type: none"> <li>• Experiencing changes on the night following discharge</li> <li>• Feeling vulnerable following discharge</li> </ul>	Communication challenges occurred after discharge	
<ul style="list-style-type: none"> <li>• Happy feelings about SDD</li> <li>• Not liking to stay in the hospital</li> <li>• SDD being more convenient and comfortable</li> </ul>	Describing SDD as a positive experience	Perceptions of SDD

- Feeling nervous and worried, but happy with the idea of SDD and trusting in healthcare professionals      Describing SDD as mixed feelings
- Concerning about existing conditions      Describing SDD as uncomfortable
- Avoiding blaming self
- Not viewing heart problem as serious as it was      Displaying misperception about SDD
- Denying underlying chronic health condition

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*Note:* SDD: same-day discharge

*Communication challenges with hospital staff*

The preparation of discharge commenced in the preadmission clinic and continued until the patient was discharged from the hospital, a process that required good communication among healthcare professionals, patients, and family members. Communication challenges were identified when it became apparent that around patients and family members were not notified of possible SDD by the preadmission nurse before arriving at the hospital. Also, patients were often not informed of SDD or having to stay overnight within 1 hour of the procedure by the nurse who cared for them in the short-stay unit. Patients stated they were given discharge instructions from the nursing staff, while most family members stated they were not. Family members stated they would prefer to receive discharge instructions and felt disappointed that the hospital did not provide this service. Those who did receive discharge instructions acknowledged that the information helped build their confidence in caring for their loved ones at home following patient discharge.

Challenges were also reported during the communication after the procedure and the post-discharge night. SDD patients felt overwhelmed by the activities that happened after their PCI. These patients stated that they were surrounded by many staff who attempted to speak to them when they were not fully recovered from the sedative medications received during the procedure: *“It's pretty hectic when you first come out, and people are firing all sorts of information at you. There were a lot of people coming around, and you're sort of half dopey and not really - you're a bit unsure of what's been going on.”* (ID 152) Also, SDD patients experienced challenges on the night following discharge, such as mild chest pain, sore wrist, and slight breathing concern, who were unsure of what to do about the discomforts. But they did not think it was serious enough to contact the hospital staff.

Furthermore, SDD patients stated they felt vulnerable following discharge. One example quoted was like this: *“To think you've gone from what you thought was a very healthy person to all of a sudden being told that you're vulnerable and you've had heart problems. That's pretty daunting for anyone, I think. So, it's just trying to get confidence back.”* (ID 152) Despite the challenges, all SDD patients and their family members felt confident in staying at home on the night following discharge.

#### *Perceptions of same-day discharge*

The perceptions of SDD varied among the participants. Patients and family members interviewed described their positive response to SDD and identified it as their preference over overnight stay. Patients described their happy feelings about the offer of SDD using words such as *“fine,” “incredible,” “good idea,” “positive,”* or *“over the moon.”* SDD patients commented that they did not like to stay in the hospital and described the hospital was like *“a nutshell”* (uncomfortably confined place) (ID 838),

the reason they preferred to go home the same day. Patients commented that going home the same day was more convenient and more comfortable. One example quote was, *“I’ve had a stent before, and I did actually stay overnight for that one. But I’ll tell you what, I actually preferred coming home because there were fewer disruptions through the night.”* (ID 774) The family member further added: *“Because the first stent, he was hooked up to the machines and they took his blood pressure and pulse and everything I think all night, and I was just wondering if that was going to be necessary, but obviously it wasn’t necessary, and he was fine.”* (ID 774R)

In contrast, patients who were discharged home the same day and their family members had mixed feelings about SDD: on the one hand, they were happy with the idea of SDD and trusted healthcare professionals; on the other hand, they felt nervous and worried about complications if the patients were discharged too early as seen in the example quote:

*“I thought, yes, that’s great, but also a little bit nervous. You’re thinking, here’s someone playing with your heart, and then they’re just going to flip you home. It was pretty nervous, and I was a bit apprehensive, but I put faith in the correct people.”* (ID 152)

On the contrary, patients who were initially eligible for SDD but subsequently required overnight hospital admission following PCI and their family members were not comfortable with the idea of SDD when asked how they perceived SDD. The reasons that patients had to be admitted were either developing peri/post-procedure complications or having PCI via femoral access. Family members were concerned about patients’ existing medical conditions, which made them feel SDD was not a good idea. Consequently, family members said that they would blame themselves if something bad occurred, such as in the below example quote: *“Plus, being the heart as part of the main*

*part – the main part of the operation was the heart, so that’s a very delicate operation, and I wouldn’t feel comfortable that in my hand, that if anything went wrong, I would blame myself. And I’m not a nurse, and I wouldn’t know what to do” (ID 582F)*

Furthermore, misperception about SDD was noted. Patients did not feel their heart problem was as serious as it was because of the possibility of going home the same day. Patients and family members felt resolving the problem was so quick, and their understanding was that the patients did not have an underlying chronic health condition. For instance, one SDD patient determined not to either take any heart medications or attend a cardiac rehabilitation program, as demonstrated in the quote: “*Well, again as I said, I have no post symptoms, I’ve got no pain, I’ve got no complaints whatsoever, and my energy level is good and active, and I don’t feel the need that I need to do anymore.*” (ID 908)

## **Discussion**

The purpose of the study was to describe patient and family perceptions and experiences of SDD following PCI. The key findings from the analysis reveal the need to take account of patient and family experiences of SDD, acknowledge the benefits of involving patients and family members in care, and the need for patients and family members to recognize the importance of long-term disease management.

Patient and family experiences of the care they receive are recognized as a crucial element of healthcare quality (Department of Health, 2011; Golda, Beeson, Kohli, & Merrill, 2018). Positive associations have been demonstrated between the experiences of care and health outcomes, such as patient safety and clinical effectiveness (Doyle, Lennox, & Bell, 2013). In the present study, both patient and family perceptions and experiences of SDD were explored. Although there was a

variability of perceptions on SDD, different factors might have influenced these perceptions. For example, some patients who were initially eligible for SDD but stayed overnight described negative views of SDD. Although these patients were not discharged home the same day, they experienced some components of the SDD process. Their negative experiences might have been influenced by the fact that they were unable to go home the same day because they experienced some complications during or after the procedure, or they required femoral access for their procedure, factors which may have influenced their perceptions. Reassuringly, most patients and family members were happy with their experiences of SDD. Exploring patient and family perceptions and experiences helped identify the aspects that were performed well and aspects that need future improvement, ultimately setting up strategies to promote positive hospital experiences of SDD for patients and their family members (Mirzaei et al., 2013).

The benefits of involving patients and family members in patient care processes, including before, during, and after the procedure, are numerous. For instance, notifying family members of the SDD possibility beforehand will help to prepare family members to provide support to the patients in the first 24 hours following patient discharge (Seto et al., 2018), for example, organizing transport home. Also, family members play a key role in managing the patient chronic conditions by sharing responsibility (Cene et al., 2016). In the present study, family members were often not given discharge instructions, indicating an opportunity to improve family involvement in patient care. Several patients commented that they felt overwhelmed after the procedure, further highlighting the importance of involving family members in care. Hence, involving family members during healthcare delivery is recommended to ensure safe and high-quality care (Health Canada, 2000; Institute for Healthcare Improvement, 2018).

Cardiac education is pivotal to ensure that patients become aware of their chronic condition of heart disease (Stolic, Lin, & Mitchell, 2019); however, research has shown that some patients undergoing PCI experienced overwhelming wellness and believed that they were cured of CHD (Carroll, 2005; Young & Barnason, 2014). The reasons for this health misconception might be varied, including staff factors such as staff advising that they try to “fix” the blockage or patient factors such as patients’ interpreting that the problem or artery having been “fixed” (Carroll, 2005; Young & Barnason, 2014). Other reasons could be the changed model of care with shortened length of stay and quick recovery (Carroll, 2005; Gallagher et al., 2013). During the interviews, several patients and family members felt that SDD signaled that there were no underlying chronic health conditions, highlighting the importance that staff need to emphasize to patients and family members that CHD is a chronic disease requiring long-term management. Early identification of patients who are at high risk of non-adherence is necessary, and strategies in providing effective education with good communication are needed to help patients recognize the need for long-term disease management (Young & Barnason, 2014).

Supporting patients and family members during the transition from the hospital to home is also important. In the period between post PCI and before discharge, patients are essentially required to comprehend and absorb the diversity of information presented to them, including new medication regimen and lifestyle modification. It has been reported that many patients leave hospitals with information deficits (Cartledge, Feldman, Bray, Stub, & Finn, 2018), and patients expressed confusion and frustration with multiple informational requirements for self-care on discharge to home (Carroll, 2005). In this study, several patients complained of being overwhelmed post the

procedure, which could have contributed to poor information retention (Carroll, 2005; Gallagher et al., 2013). Under the fast-paced nature of healthcare settings, patients may also develop complex affective responses to diagnosis and treatments, including anxiety and depression (Le, Dorstyn, Mpfou, Prior, & Tully, 2018; Pettersen et al., 2018). This may explain why some SDD patients in our study felt vulnerable during the recovery period at home. Consistent with previous findings, the immediate days (i.e., 7 days) following discharge from hospital is considered as a vulnerable period (Hajduk et al., 2018; Yu-Chi, Guann-Ming, Hsien-Yen, & Tsung-Hsien, 2017) in the patient journey; therefore, additional support and education would be beneficial (Pettersen et al., 2018).

Also, nearly one-third of patients stated that they did not receive their discharge instructions in this present study, echoed with the previous study that reported providing discharge instructions to patients often being fragmented following PCI (Valaker et al., 2017). However, these patients may have been given discharge instructions but unable to recall as a result of the aforementioned challenges. This leads to a question about when is the right time for patients to receive discharge instructions. Hence, hospital clinicians need to determine strategies in improving bridging between acute intervention and chronic disease management and identify tailored interventions or support for individuals (Mohammadpour, Rahmati Sharghi, Khosravan, Alami, & Akhond, 2015), especially those who are at high risk of not knowing what to manage during the recovery period.

Finally, a large portion of the sample was not discharged home on the same day as their PCI, which poses an important clinical implication. Although our study was not intended to explore the reasons and numbers of patients who were excluded from SDD, the eligibility criteria used in this study were more conservative compared to those

described in the literature. For instance, many studies have reported successful SDD with patients who underwent PCI via the femoral approach (Amin et al., 2018; Glaser et al., 2009; Heyde et al., 2007), which was an exclusion criterion in our study. The recent consensus statement from the Society for Cardiovascular Angiography and Interventions (Seto et al., 2018) focuses on the “three Ps,” namely procedure, patient, and program when guiding the adoption of SDD. For example, patients will be eligible for SDD if they remain clinically stable after a successful PCI, have completed 4-6 hours of recovery period, and have adequate social support, regardless of access route and presentation. For greater impact, the eligibility criteria should be reviewed and expanded where appropriate to benefit more patients who have potential to go home sooner.

### **Strength and limitations**

To the researcher’s knowledge, this was the first study to explore both patient and family perceptions and experiences of SDD. The findings of the study will inform hospital policymakers and clinicians about how to develop strategies to promote patient and family positive experiences of SDD, ultimately contributing to high-quality consumer-centered care (Institute for Healthcare Improvement, 2018). However, the study had limitations. The interviews were conducted within 7 days of discharge, which may have introduced recall bias. Although telephone interviewing was considered as appropriate in this study, face-to-face interviews with patients and family members might be used in future studies when exploring more in-depth information.

### **Conclusion**

Overall, most patients and family members perceived SDD as a good option. Offering information and support from the beginning of the care trajectory to discharge

may promote positive experiences for SDD patients and their family members, especially through their involvement in care. Strategies are needed to support patients and family members in the transition from the hospital discharge to home, ultimately building their confidence in long-term disease management.

## References

- AIHW. (2016). *Australia's health 2016*. Retrieved from <https://www.aihw.gov.au/reports/australias-health/australias-health-2016/contents/table-of-contents>
- Amin, A. P., Crimmins-Reda, P., Miller, S., Rahn, B., Caruso, M., Pierce, A., . . . Singh, J. (2018). Novel patient-centered approach to facilitate same-day discharge in patients undergoing elective percutaneous coronary intervention. *Journal of the American Heart Association*, 7(4), 1-13. doi:10.1161/JAHA.117.005733
- Bundhun, P. K., Soogund, M. Z., & Huang, W. Q. (2017). Same day discharge versus overnight stay in the hospital following percutaneous coronary intervention in patients with stable coronary artery disease: a systematic review and meta-analysis of randomized controlled trials. *The Public Library of Science*, 12(1), 1-13. doi:10.1371/journal.pone.0169807
- Carroll, D. L. (2005). Capacity for direct attention in patients undergoing percutaneous coronary intervention: the effects of psychological distress. *Progress In Cardiovascular Nursing*, 20(1), 11-16. doi:10.1111/j.0889-7204.2005.03823.x
- Cartledge, S., Feldman, S., Bray, J. E., Stub, D., & Finn, J. (2018). Understanding patients and spouses experiences of patient education following a cardiac event and eliciting attitudes and preferences towards incorporating cardiopulmonary resuscitation training: a qualitative study. *Journal of Advanced Nursing*, 74(5), 1157-1169. doi:10.1111/jan.13522
- Cene, C. W., Johnson, B. H., Wells, N., Baker, B., Davis, R., & Turchi, R. (2016). A narrative review of patient and family engagement: the "foundation" of the medical "home". *Medical Care*, 54(7), 697-705. doi:10.1097/MLR.0000000000000548
- Davies, M., & AIHW. (2003). *Coronary revascularisation in Australia, 2000*. Retrieved from <https://www.aihw.gov.au/reports/heart-stroke-vascular-diseases/coronary-revascularisation-australia-2000/contents/table-of-contents>
- Department of Health. (2011). *The NHS Outcomes Framework 2012/13*. Retrieved from <https://www.gov.uk/government/publications/nhs-outcomes-framework-2012-to-2013>
- Doyle, C., Lennox, L., & Bell, D. (2013). A systematic review of evidence on the links between patient experience and clinical safety and effectiveness. *BMJ Open*, 3(1), e001570. doi:10.1136/bmjopen-2012-001570
- Elo, S., & Kyngas, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing*, 62(1), 107-115. doi:10.1111/j.1365-2648.2007.04569.x
- Gallagher, R., Belshaw, J., Kirkness, A., Warrington, D., Sadler, L., & Roach, K. (2013). Evaluation of a brief educational intervention to improve knowledge of sublingual nitroglycerin in cardiac rehabilitation patients. *European Journal of Cardiovascular Nursing*, 12(6), 529-535. doi:10.1177/1474515112473694
- Gerber, Y., Rihal, C. S., Sundt III, T. M., Killian, J. M., Weston, S. A., Therneau, T. M., & Roger, V. L. (2007). Coronary revascularization in the community: a population-based study, 1990 to 2004. *Journal of the American College of Cardiology*, 50(13), 1223-1229. doi:10.1016/j.jacc.2007.06.022
- Glaser, R., Gertz, Z., Matthai, W. H., Wilensky, R. L., Weiner, M., Kolansky, D., . . . Herrmann, H. (2009). Patient satisfaction is comparable to early discharge

- versus overnight observation after elective percutaneous coronary intervention. *Journal of Invasive Cardiology*, 21(9), 464-467.
- Golda, N., Beeson, S., Kohli, N., & Merrill, B. (2018). Analysis of the patient experience measure. *Journal of the American Academy of Dermatology*, 78(4), 645-651. doi:10.1016/j.jaad.2017.03.051
- Hajduk, A. M., Hyde, J. E., Waring, M. E., Lessard, D. M., McManus, D. D., Fauth, E. B., . . . Saczynski, J. S. (2018). Practical care support during the early recovery period after acute coronary syndrome. *Journal of Applied Gerontology*, 37(7), 881-903. doi:10.1177/0733464816684621
- Health Canada. (2000). *The Health Canada policy toolkit for public involvement in decision making*. Retrieved from <https://www.canada.ca/en/health-canada/corporate/about-health-canada/reports-publications/health-canada-policy-toolkit-public-involvement-decision-making.html>
- Heyde, G. S., Koch, K. T., Winter, R. J., Dijkgraaf, M. G., Klees, M. I., Dijkman, L. M., . . . Tijssen, J. G. (2007). Randomized trial comparing same-day discharge with overnight hospital stay after percutaneous coronary intervention: results of the elective PCI in outpatient study (EPOS). *Circulation*, 115(17), 2299-2306. doi:10.1161/CIRCULATIONAHA.105.591495
- Institute for Healthcare Improvement. (2018). *Safety is personal: partnering with patients and families for the safest care*. Retrieved from <https://www.npsf.org/page/safetyispersonal>
- Kim, M., Muntner, P., Sharma, S., Choi, J. W., Stoler, R. C., Woodward, M., . . . Farkouh, M. E. (2013). Assessing patient-reported outcomes and preferences for same-day discharge after percutaneous coronary intervention: results from a pilot randomized, controlled trial. *Circulation: Cardiovascular Quality and Outcomes*, 6(2), 186-192. doi:10.1161/CIRCOUTCOMES.111.000069
- Knopf, W. D., Cohen-Bernstein, C., Ryan, J., Heselov, K., Yarbrough, N., & Steahr, G. (1999). Outpatient PTCA with same day discharge is safe and produces high patient satisfaction level. *Journal of Invasive Cardiology*, 11(5), 290-295.
- Le Corvoisier, P., Gellen, B., Lesault, P. F., Cohen, R., Champagne, S., Duval, A. M., . . . Teiger, E. (2013). Ambulatory transradial percutaneous coronary intervention: a safe, effective, and cost-saving strategy. *Catheterization and Cardiovascular Interventions*, 81(1), 15-23. doi:10.1002/ccd.24545
- Le, J., Dorstyn, D. S., Mpfou, E., Prior, E., & Tully, P. J. (2018). Health-related quality of life in coronary heart disease: a systematic review and meta-analysis mapped against the International Classification of Functioning, Disability and Health. *Quality of Life Research*, 27(10), 2491-2503. doi:10.1007/s11136-018-1885-5
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hills, Calif.: Sage Publications.
- McGrath, C., Palmgren, P. J., & Liljedahl, M. (2019). Twelve tips for conducting qualitative research interviews. *Medical Teacher*, 41(9), 1002-1006. doi:10.1080/0142159X.2018.1497149
- Mirzaei, M., Aspin, C., Essue, B., Jeon, Y.-H., Dugdale, P., Usherwood, T., & Leeder, S. (2013). A patient-centred approach to health service delivery: improving health outcomes for people with chronic illness. *BMC Health Services Research*, 13(1), 251-251. doi:10.1186/1472-6963-13-251
- Mohammadpour, A., Rahmati Sharghi, N., Khosravan, S., Alami, A., & Akhond, M. (2015). The effect of a supportive educational intervention developed based on

- the Orem's self-care theory on the self-care ability of patients with myocardial infarction: a randomised controlled trial. *Journal of Clinical Nursing*, 24(11-12), 1686-1692. doi:10.1111/jocn.12775
- Mozaffarian, D., Benjamin, E. J., Go, A. S., Arnett, D. K., Blaha, M. J., Cushman, M., . . . Stroke Statistics, S. (2015). Heart disease and stroke statistics—2015 update: a report from the American Heart Association. *Circulation*, 131(4), e29-e322. doi:10.1161/CIR.0000000000000152
- Pettersen, T. R., Fridlund, B., Bendz, B., Nordrehaug, J. E., Rotevatn, S., Schjøtt, J., . . . Fakulteten för Hälso- och, I. (2018). Challenges adhering to a medication regimen following first-time percutaneous coronary intervention: a patient perspective. *International Journal of Nursing Studies*, 88, 16-24. doi:10.1016/j.ijnurstu.2018.07.013
- Polit, D. F., & Beck, C. T. (2012). *Resource manual for nursing research: generating and assessing evidence for nursing practice* (9th ed.). Philadelphia: Wolters Kluwer/Lippincott Williams & Wilkins.
- QSR International. (2017). *NVivo qualitative data analysis software*. QSR International Pty Ltd. Version 11.
- Roth, G. A., Johnson, C., Abajobir, A., Abd-Allah, F., Abera, S. F., Abyu, G., . . . Murray, C. (2017). Global, regional, and national burden of cardiovascular diseases for 10 causes, 1990 to 2015. *Journal of the American College of Cardiology*, 70(1), 1-25. doi:10.1016/j.jacc.2017.04.052
- Seto, A. H., Shroff, A., Abu-Fadel, M., Blankenship, J. C., Boudoulas, K. D., Cigarroa, J. E., . . . Rao, S. V. (2018). Length of stay following percutaneous coronary intervention: an expert consensus document update from the society for cardiovascular angiography and interventions. *Catheterization and Cardiovascular Interventions*, 92(4), 717-731. doi:10.1002/ccd.27637
- Shroff, A., Kupfer, J., Gilchrist, I. C., Caputo, R., Speiser, B., Bertrand, O. F., . . . Rao, S. V. (2016). Same-day discharge after percutaneous coronary intervention: current perspectives and strategies for implementation. *Journal of the American Medical Association Cardiology*, 1(2), 216-223. doi:10.1001/jamacardio.2016.0148
- Stolic, S., Lin, F., & Mitchell, M. (2019). Randomized controlled trial of symptom management patient education for people with acute coronary syndrome. *Journal of Nursing Care Quality*, 34(4), 340-345. doi:10.1097/NCQ.0000000000000383
- Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*, 19(6), 349-357. doi:10.1093/intqhc/mzm042
- Valaker, I., Norekvål, T. M., Råholm, M.-B., Nordrehaug, J. E., Rotevatn, S., Fridlund, B., & on behalf of the, C. I. (2017). Continuity of care after percutaneous coronary intervention: the patient's perspective across secondary and primary care settings. *European Journal of Cardiovascular Nursing*, 16(5), 444-452. doi:10.1177/1474515117690298
- Young, L., & Barnason, S. (2014). Older patients' perception and experience with lifestyle changes following cardiac revascularization. *American Journal of Clinical Medicine*, 10(1), 30-38.

- Yu-Chi, T., Guann-Ming, C., Hsien-Yen, C., & Tsung-Hsien, Y. (2017). Relationship between early physician follow-up and 30-day readmission after acute myocardial infarction and heart failure. *PLoS One*, *12*(1), e0170061. doi:10.1371/journal.pone.0170061
- Ziakas, A., Klinke, P., Fretz, E., Mildenerger, R., Williams, M. B., Della Siega, A., . . . Hilton, J. D. (2004). Same-day discharge is preferred by the majority of the patients undergoing radial PCI. *Journal of Invasive Cardiology*, *16*(10), 562-565.