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# Exploring the information needs of patients who have undergone PCI

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Interventional cardiology has rapidly developed to include numerous procedures for treatment of coronary artery disease (CAD) and other cardiac abnormalities which previously required invasive surgery. Management goals have also shifted from the reduction of risks associated with myocardial infarction (MI) to improving myocardial blood flow through reperfusion or revascularization (Hargrove Deelstra, 2005). Consequently, percutaneous coronary intervention (PCI) has become an increasingly popular treatment option for CAD as it offers a less-invasive treatment alternative to coronary artery bypass graft (CABG) surgery, instant symptom relief, reduced risk, and an earlier return to activities of daily living (White and Frasure-Smith, 1995; Higgins et al, 2001; Lyons et al, 2002). The number of PCI procedures performed in Australia since 1996 has steadily increased, with national figures presenting a doubling of PCI procedures between 1996-1997, 1998 and 2005-2006 (Davies and Senes, 2001; Australian Institute of Health & Welfare (AIHW), 2008). Additionally, rates of CABG surgery have decreased by 33%, suggesting PCI as the preferred treatment for reperfusion of blood to the heart muscle (AIHW, 2008: 189). This does not imply that PCI is the only treatment option for reperfusion of blood to the heart muscle. Treatment options are determined based on a variety of influences which are supported by a medical decision (Hirani, 2006; Periera et al, 2006).

The British Heart Foundation Health Promotion Research Group (BHF HPRG, 2006: 1) and Allender et al (2007: 65) identify a 'four-fold' increase in the number of PCI cases in the UK over the ten years to 2006 and a 12% increase in PCI procedures between 2004 and 2005. Furthermore, annual figures reported for CABG surgery were 30 000 cases and PCI with stents 63 000 cases (BHF HPRG, 2006: 1).

A large proportion of patients requiring immediate coronary artery catheterization and PCI predominantly present with angina (42%), acute myocardial infarction (AMI) (26%), or chronic CAD (25%) (AIHW, 2004, 121). Because of the acute presentation and urgency for coronary artery catheterization, patient information concern-

ing the pre-procedural, intra-procedural, and post-procedural periods is often overlooked, potentially leading to patient anxiety (Tooth and McKenna, 1995; Cronin et al, 2000; Kattainen et al, 2004; Astin et al, 2005). Furthermore, it is reinforced that the nature of the PCI procedure is anxiety-producing as patients are awake and may concern themselves with events occurring during the procedure, or possible complications post-procedurally (Kern, 1999; Koo and Brouwer, 2001; Harkness et al, 2003; Chair and Thompson, 2005).

Motivation to conduct this research originated from the researcher's graduate year clinical experiences, which

## ABSTRACT

In Australia percutaneous coronary intervention (PCI) rates have significantly increased over the last decade. However, often, in the hospital setting, there is little time for comprehensive patient education due to the urgency for coronary artery catheterisation, and short length of patient stay.

**Aim:** The purpose of this study was to explore the information needs of first-time PCI patients four to six weeks post-procedure.

**Method and Results:** This study was based on a naturalistic inquiry approach using semi-structured interviews with 10 participants and field notes as the methods of data collection. Data were analysed utilising Thomas' (2003) five steps to a thematic analysis, incorporating a constant comparative approach. Four themes were identified: 'Events leading up'; 'Information prior'; 'About the procedure'; and 'Lifestyle'.

**Conclusions:** Findings highlighted the numerous educational needs of participants for PCI across the continuum of their clinical admission and discharge. Furthermore, the study uncovered the need for a tailored approach to PCI patient information delivery. Findings also demonstrated the need to further identify and trial different information delivery methods and timing of PCI education to patients and their families.

## KEY WORDS

- ◆ Naturalistic inquiry
- ◆ Percutaneous coronary intervention (PCI)
- ◆ Patient information needs
- ◆ Patient education

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highlighted the need to address specific information requirements of patients undergoing PCI at the various stages of their treatment. From the researcher's clinical experience, patients on admission, as part of routine clinical practice, were asked to write in their own words a description of the procedure they would be undergoing. Anecdotally, patient responses highlighted that on admission patients 'have no idea what I am having done', or 'have heard of the procedure but, I am unaware of what it involves'. Alternatively, patients had been educated on the procedure, however, they were presented with an abundance of information and certain aspects were not well understood. Furthermore, the researcher's clinical experience highlighted that, on discharge, patients frequently asked, 'What can and can't I do when I go home?', and 'What do I do if something happens?' Although patients may have been provided with both verbal and written education material, it is suggested that the combination of the PCI hospital experience, short length of stay, type and timing of information, anxiety, and patient individuality may all inhibit a patient's comprehension of the educational information being provided (Finesilver, 1980; Davis et al, 1994; Phatouros and Blake, 1995).

## Aims

The aims of this study were to:

- ♦ Explore the information needs of patients undergoing PCI for the first time
- ♦ Explore how these needs were best met.

The following research questions were examined:

- ♦ What are the information needs of patients undergoing PCI for the first time?
- ♦ How should the information needs of patients undergoing PCI for the first time be met?

## Methods

This study is situated in the interpretive paradigm and use naturalistic inquiry as the methodology to guide the research. Fossey et al (2002: 727) argue that interpretive research values the voiced experience of participants' worlds in that they are considered valid, 'privileged' and therefore, a rich data source. Furthermore, this paradigm questions a person's subjective human experience and human consciousness in an attempt to identify the 'construction of social life and describe how people construct social meaning' (Roberts and Taylor, 2002: 15-6). Hence, the accounts and descriptions of experiences (subjective) reported by participants' and the utilization of a qualitative interpretive methodology and its inherent concepts facilitated an understanding of participants' social worlds and thus, generated meaning from the study.

## Setting

This study was undertaken at a major Australian metropolitan private hospital. At the time of the study the hospital had 286 beds with 60 beds specific to cardiac services. The hospital services a diverse population and is a major provider of cardiac services with more than 465 PCI proce-

dures performed between January 2007 and December 2007 (R Brighthouse, personal communication, 17 June 2008).

## Participants

Participants were included in the study if they were: first-time PCI patients; undergoing PCI during data collection; and agreed to participate in the study when followed up two weeks post-discharge from hospital. Ten patients were recruited to the study.

## Data collection

This study employed data collection methods of face-to-face semi-structured interviews and the compilation of field notes. Questions were pre-written and open-ended, and interviews were audio-taped and then transcribed verbatim.

## Ethical approval

Ethical approval to conduct this study was obtained from the University Human Research Ethics Committee and the Hospital Research Ethics Committee. Hospital cardiologists were also contacted and informed of the study granting permission to approach their patients. All participants received written and informed consent documents before participating in the study.

## Procedure

The researcher identified PCI patients during their hospital admission. On the day of their discharge from the hospital, potential participants were invited by the researcher to participate in the study. The researcher provided potential participants with a written information sheet and explained the details of the study. A courtesy phone call two weeks post-discharge was arranged with each participant to confirm their approval and participation.

Participants were involved in a 30–45 minute interview which was conducted in an interview room at the hospital. Participants were met by the researcher at the hospital at a mutually-agreed time before their first clinical review post-PCI. Transcripts of the taped interviews were posted to participants approximately 1 month after the interview, along with a letter of thanks for their involvement in the study. Following this, the researcher telephoned each participant within 1–2 weeks to verify accuracy of the transcripts. Only minor background and demographic changes were made to the transcripts.

## Data analysis

Data were analysed using thematic analysis. The process of a thematic analysis involves a series of steps which facilitate the emergence of themes within data gathered. The five steps to a thematic analysis as detailed by Thomas (2003) guided the stages of this data analysis process (Table 1). This process of analysis facilitated the comprehension of data attained and also allowed for emergence of themes through the use of an inductive approach (Thomas, 2003).

The data analysis process was performed twice by the researcher and academic supervisors. Documented field

**Table 1.**  
**Data analysis steps**

- ◆ Preparation of raw data files ('data cleaning')
- ◆ Close reading of text
- ◆ Creation of categories
- ◆ Overlapping coding and un-coded text
- ◆ Continuing revision and refinement of category system

Thomas, 2003: 5

notes were also read and compared against the verified data to allow for greater reliability of research findings. Themes and sub-themes were identified by the research team using a constant comparative analysis technique whereby individual transcripts from interviews were compared and contrasted with other individual transcripts, allowing for comparisons to be made (Rogers et al, 2002).

## Results

Of the 10 participants in the study, two were female and eight were male. Participants ranged in age from 37 years to 79 years with the mean participant age being 55.8 years. Nine participants were married, and one was divorced. Participants' education ranged from junior schooling to dual-degree studies at a tertiary level.

No participants in this study had experienced PCI in the past. One participant underwent coronary angiography in the past, in 1995, at a different hospital. Two participants experienced recent coronary angiography leading up to their PCI at another hospital. One of the two participants who had undergone recent coronary artery catheterization also possessed a substantial knowledge of coronary angiography and PCI. Two participants underwent emergency PCI on the day of admission, while the remaining eight were pre-admitted to the hospital and underwent PCI either on the day or within 1–3 days of their coronary angiography. Three participants identified a previous knowledge of PCI as they had family and/or spouses undergo the procedure in the past.

Half the participants (i.e. five) in this study reported in hindsight to have experienced chest pain for a period of 12 months or longer before realising something was wrong. The remaining five reported only recent chest pain within 2–4 months leading up to the procedure. Participant one reported comparable chest discomfort to that experienced in 1995 before undergoing coronary angiography and no appreciable disease had been previously reported.

Four themes were identified from the raw data: 'events leading up'; 'information prior'; 'about the procedure'; and 'lifestyle'.

### Events leading up

Under the theme entitled 'events leading up', participants explained how they came to realise that the signs and

symptoms they were actually experiencing may have been more significant than was initially thought. Most participants attempted to identify and evaluate the activities causing their chest pain and endeavoured to alleviate it themselves, by either self-medicating with antacids or relaxation techniques. The participants' comments below highlight their stories and perceptions in relation to putting up with what was wrong, working out what was wrong and accessing treatment.

### Putting up with what was wrong

**I used to get indigestion all the time. Well, I thought it was indigestion. So I was getting angina, that I wasn't thinking of. (Participant 2)**

### Working out what was wrong

**...I was finding that I was out of breath and feeling some discomfort after relatively short walks. Three or 400 metres to the bus and I guess having just started a new job I put it down to what I thought was a chest infection that I picked up around Christmas time. And I didn't want to miss any work. So, I guess I worked with it for a week and a half, but it was getting worse each time. I made a decision on the day that I had my procedure that I better go to the doctor. Things happened quite quickly from there.(Participant 5)**

### Accessing treatment

**I went to my local GP and it just went on from there. So I then came in and did a stress echo, and from there they said there was a problem and then the x-ray and then the stent. (Participant 2)**

For most participants, the events leading up to their admission were experienced for as long as 6–12 months. Most believed their chest pain was either indigestion, as a result of a recent chest infection, or exercise-related. Most participants did not have a history of angina or previous cardiac events or familial cardiac history.

### Information prior

The second theme which emerged was the participants' need for information before the PCI procedure. Participants verbalised that they had significant trust in their doctor, yet they received limited information from the doctor before undergoing the procedure. Interestingly, all participants were given verbal education by their cardiologists and nursing staff, yet few were given written material.

Some participants were satisfied with the explanations they were given. However, most would have preferred a written information source. In some circumstances pre-procedural written information was minimal or not supplied due to the emergency nature of the admission.

The following vignettes reflect participants' experiences and demonstrate the sub-themes 'doctor trust' and 'limited information'.

## Doctor trust

**He sort of explained what they do and then said that there were risks involved and he just sort of said, 'so what do you think mate?'. I basically went you're the doctor, it's up to you I don't care, I'll do whatever you tell me to. (Participant 6)**

## Limited information

**Well, he didn't give it to me, it was just on his desk. He was just going through these are the things. Yeah, and I think he might have had a picture of a heart there. So, I had no literature, no. (Participant 2)**

## About the procedure

The third theme highlighted participants' individual PCI experiences and from this, three further sub-themes arose: 'simplicity'; 'human contact'; and 'unknown elements'.

Participants spoke of the 'simplicity' of the procedure, however, they voiced that all potential patients should be aware that it is a major procedure. Participants regarded the procedure as 'simple' for a number of reasons: the short length of time it took; that it is only performed under a local anaesthetic; there were no large visible scars; a short hospitalization period was all that was required; and for some participants there was nil or minimal pain or stress experienced.

## Simplicity

**And I think because my sister, her sister-in-law said it a couple of times, 'you don't really think you've gone through much because there's no big scar'. Oh everybody's going, 'where's your scar?'. And like well there's a little hole just down here, but that's it! So, you don't think you've gone through much. And she's going, 'no you've had major surgery' and maybe that needs to be explained. I don't know if people do it or not. (Participant 6)**

The second sub-theme, 'human contact' or the presence of health care staff in the cardiac catheterization theatre (CCT) was noted by participants to be important as some participants felt claustrophobic and/or anxious.

## Human contact

**I think the fact that the human contact was a lot better I'd go through one of those again, compared to MRI. I'd definitely give a MRI another thought. (Participant 4)**

The last sub-theme in this section was 'Unknown elements'. Comments made by the participants to highlight this included the indefinite length of time noted for the procedure, feelings of fear and anxiety related to the lack of control over the situation, the possibility the outcome might be CABG surgery, and uncertainty surrounding the long-term effectiveness of the PCI procedure.

## Unknown elements

**You know, the duration of the operation seems to be a bit unknown and maybe it's a bit unknown to the doctor too?... I wished it was over and you don't know when that is, and all of a sudden it stops. (Participant 2)**

## Lifestyle

The final theme which emerged from the data, 'lifestyle', pertained to participants' everyday life and included that of post-discharge capabilities, uncertainty, and the family's need for knowledge.

For the first sub-theme of 'capabilities', participants detailed how they felt an increased sense of wellness because of instant symptom relief, yet they had concerns regarding when to recommence physical activity. Additionally, some participants were not sure when post-discharge activity could be resumed and explained the repercussions they consequently dealt with due to of this lack of knowledge.

As a result, post-discharge themes identified below include recommendations which were suggested by participants.

## Capabilities

**...I've probably gone to do a few things a bit quickly than what probably I should have, because I feel so well in myself compared to what I did. (Participant 4)**

The second sub-theme highlighted uncertainty surrounding participants post-discharge concerns were noted. In retrospect, some participants questioned their actions should a puncture site bleed or haematoma occur, what to expect in general terms during the recovery phase and their medications, adverse reactions, contraindications, and how long they should be taken for. Participants emphasised the importance of advising future patients of this.

## Uncertainty

**I'd basically been given enough information for sort of say 48 hours but then nothing. So I had three weeks off and didn't know what I was supposed to be doing or not doing. (Participant 6)**

Lastly, participants frequently spoke of their families and their greater need and search for additional procedural information than they as patients required. Furthermore,

participants also added that their families and/or spouses possessed a greater knowledge of PCI than they did. The vignette below displays how one participant's family member needed and searched for more information.

#### Family information needs

**It's fantastic, there was, I think it's a booklet the hospital hasn't printed. They were just A4 sheets, but I've read that a number of times. I've got two of those! My wife's got one as well. (Participant 9)**

#### Discussion

Participants involved in this study, the greater number of whom were male, were characteristic of the general population of patients who have CAD and undergo PCI (AIHW, 2008). The mean age of participants in this study was 55.8 years. This is also consistent with studies where the mean PCI patient age is 55 years in Australia (AIHW, 2004), 63 years in the UK, 61.5 years in Western Europe and 59.8 years in Eastern Europe (Giugliano et al, 2001). Eight participants interviewed in this study were male, with the other two female. In the literature the number of male patients with CAD is generally much higher than females in Australia, the UK and Europe (Theobald, 2001; National Heart Foundation (NHF), 2004; BHF, 2006; Williams, 2006; AIHW, 2008; Allender et al, 2008).

#### Events leading up

Participants identified the symptoms they experienced, management, and when treatment was accessed. This is supported by Conway and Fuat (2007), who identify similar signs and symptoms of angina to those reported by participants here such as chest, jaw, neck, ear, back, shoulder, arm or epigastric pain and/or heaviness. They explain that it may be instigated by emotional status, post physical exertion and/or at rest, and may be accompanied by shortness of breath (Conway and Fuat, 2007).

Most participants in this study presented at a later stage in the onset of symptoms. Williams (2006) recognizes that the delay in patients' presentation to a GP or hospital emergency department is common. Furthermore, Williams (2006) identifies that patients who are experiencing symptoms are unaware that they have CAD 'until it has reached a fairly advanced stage and the arteries have narrowed enough to cause the symptoms of angina' (Williams, 2006: 2). Moreover, Farooq et al (2007: 60) argue that patients 'walk through' their angina and thus, attempt to tolerate the symptoms and delay their admission to a hospital emergency department or to a GP's room—in keeping with the results reported in this study.

#### Information prior

It is well-documented in the literature that education for patients and families should commence on admission (Czar and Engler, 1997; Brezynski et al, 1998; NHF, 2004; Higgins et al, 2005). Furthermore, these authors advise that outpatient clinics play an important educational role

and should be promoted to patients and families following PCI (Czar and Engler, 1997; Brezynski et al, 1998; Higgins et al, 2005).

In the literature, it is apparent that pre-procedural education benefits PCI patients as it reduces anxieties, fears, and resolves any misapprehension of PCI (Davis et al, 1994; Tooth et al, 1997; Chair and Thompson, 2005). In addition, Higgins et al (2005) identify that effective PCI rehabilitative education should accommodate the different learning patterns of patients and should include different formats as suggested by patients, such as group and individual activities.

Participants in this study recognized the importance of pre-procedural education as they voiced concerns and anxieties about the procedure as they were first time PCI patients. As most participants attended a clinical consultation at their cardiologist's rooms, most of their pre-procedural education entailed a verbal and visual explanation of PCI. Participants reported clarity in this education session, but voiced being unable to answer the questions of families and friends as they had not been able to recall some of the information delivered. In the clinical consultation participants were shown a PCI brochure by the cardiologist but were not given one to take away.

Pre-procedural information was highlighted as crucial by participants in this study. Harkness et al (2003) and Hughes (2002) recommend that pre-admission education be delivered to patients as it can decrease the levels of anxiety as patients wait for their procedure during their hospital stay. Furthermore, Hughes (2002) suggests that education during admission may not be clearly recalled due to higher levels of anxiety experienced, therefore leading to pre-admission education. Conversely, Harkness et al (2003) recommends that a pre-admission education intervention would allow for an increase in patients health quality of life (QOL) by decreasing their anxiety levels.

Tooth and McKenna (1995) argue for flexibility in the delivery of PCI patient education, recommending both pre-admission and post-discharge education. They explain the importance of pre-procedural and post-procedural PCI education. Furthermore, they recognize that the perfect time for PCI patient education is still to be identified (Tooth and McKenna, 1995). This study found that there is no perfect time and that a more flexible and tailored approach to PCI patient education is required.

#### About the procedure

Participants in this study highlighted the need to inform future patients that although the procedure may seem to be 'relatively simple', it is in fact a more complex process. The simplicity of PCI was also reflected in Gaw's (1992) study where some patients voiced feeling so well post-discharge that they did not follow through in attending cardiac rehabilitation—being relieved of their discomfort, they felt rehabilitation was no longer necessary (Gaw, 1992).

Human contact with the patient in the CCT was positively remarked on, as the cardiologists and nursing staff talked each participant through their procedure relieving

them of their anxieties. Participants also voiced feeling relieved of their anxieties knowing they were in capable hands. Literature detailing the intra-procedural experience was minimal. Anxiety was reduced in patients undergoing coronary angiography and PCI as the participants gained trust through personal interaction with staff during the procedure (Higgins et al, 2001).

The intra-procedural anxiety reported by participants was also highlighted in this study. Davis et al (1994) identify patients' feelings of helplessness and requiring 'emotional support and coping assistance' (Davis et al 1994: 146). Moreover, they identified the causes of patients' increased anxious state as calamitous or threatening thoughts associated with the procedure, or related to a past 'medical or dental procedure' (Davis et al 1994: 146).

Two participants in this study reported flashbacks of past traumatic events, while others identified a state of anxiety associated with not knowing what would happen in the procedure and not being in control of the situation (i.e. inability to move once on the surgical table). Kern (1999) identifies the presence of the health care team during cardiac catheterization and furthermore explains the importance of open communication and patient teaching amongst all staff and the patient during this time. Kern (1999) recognizes that this openness creates patient comfort to unreservedly communicate with nursing staff and their cardiologist of any discomfort or pain experienced.

### Lifestyle

Approximately half of the participants interviewed in this study reported limitations in their post-discharge capabilities as they were unsure how to manage their normal life and activity levels on discharge to home. Primary concerns included managing a haematoma and haemorrhage, nutrition information, and medication information.

It is identified that patients' post-discharge concerns lie in the areas of puncture site management and discomfort, what to do if cardiac symptoms return, when to access medical treatment, and medication concerns (Brezynski et al, 1998; Chair and Thompson, 2005; Higgins et al, 2005). Furthermore, requests for information in areas of lifestyle changes include that of risk reduction, post-discharge support networks and cardiac symptom control.

Findings from this study undertaken suggest a tailored approach to patient education. Participants identified patient individuality and thus suggested that both written, visual, and verbal material be delivered continuously both pre-procedurally and post-procedurally. Furthermore, participants' recommendations for content included that of the post-discharge period, activity recommencement, medication education, post-discharge complication identification and management. Accessing medical treatment and family information needs were also highlighted as important.

Higgins et al (2000) recognized minimal post-discharge concerns in that most participants complied with medication administration, post-discharge activities, and the commencement of lifestyle risk factor modification.

Several participants in this study reported concerns of the administration, side effects, and length of time they were required to take the drug clopidogrel, while others were unsure of the side effects of atorvastatin. This concern was also identified by participants in a study by Brezynski et al (1998), where the importance of medications and associated complications and management were identified as paramount in patient education.

Post-PCI misconceptions identified in other studies included that of participants experiencing feelings of overwhelming wellness and believing they are cured of CAD (Gaw, 1992; McKenna et al, 1995, Gulanick et al, 1998; Kimble and King, 1998). It has been identified that the short length of stay may contribute to these misconceptions as participants underestimate the PCI procedure (Kimble and King, 1998). The authors and patients identify improper home exercise programmes undertaken as a result of these misconceptions and thus the importance of education in this area (i.e. a cardiac rehabilitation program) (Kimble and King, 1998).

### Limitations of the study

It is recognized that this study reflects the views and real world experiences of a small group of participants. Therefore, the findings may not be generalizable to the entire PCI patient population.

Secondly, as the interviews were conducted 6 weeks post-procedure, participants may have failed to remember certain details of their PCI experience. However, it was felt that a 6-week timeframe would give participants time to reflect on their experiences and also this was the usual timeframe for clinical review after-discharge.

### Recommendations

Results from this study highlight the importance of timing of information delivery, and the need to acknowledge the different learning styles of patients when informing them about the PCI procedure.

All cardiac nurses need to be aware that in the delivery of patient education, timing and quantity of information is also important. As the majority of PCI patients suffer from anxiety (Harkness et al, 2003; Chair and Thompson, 2005), inappropriately-delivered information may result in the patient's misunderstanding or inability to recall information provided.

In addition, nurses should ensure that patients have an understanding and awareness of their medications in relation to significance, aims, interactions, and contraindications before discharge.

Furthermore, the scope, seriousness, and prognosis of the PCI procedure need to be addressed in order to resolve any misconceptions held by patients pre-procedurally or post-procedurally. This should also include stressing exercise and activity level progression as physical activities are recommenced too soon.

Recommendations by participants suggest that verbal, written and visual information sources be presented at various intervals throughout the patient's admission, and

more so if a patient underwent emergency PCI. Post-procedural education should include information on medication, resumption of activities post-discharge, complication identification, management and access to medical treatment. Findings also highlighted the importance of family education and their information needs.

Possible future research areas include:

- ♦ Timing of information delivery
- ♦ Flexible learning delivery
- ♦ Reinforcing follow-up education in clinics
- ♦ Determining the effectiveness of different types of education material for PCI patients.

Trialling the effectiveness of an inpatient cardiac education centre with library access, internet resources, visual information sources (i.e. posters, models of the heart, DVDs) and/or nurse-led education sessions is recommended.

## Conclusions

The aims of this study were to explore the information needs of patients undergoing PCI for the first time and to identify how these information needs were best met.

The findings highlight the PCI patient's need for information at a variety of times, which may include pre-procedural, intra-procedural and post-procedural education, including post-discharge information. In particular, those participants who underwent emergency PCI perceived they may have missed out on pre-procedural education, reflecting the need for continuous post-procedural education. Post-procedural education needs identified included the post-discharge period, activity recommencement, medication education, complication identification and management, as well as when to access medical treatment. Family information needs were also emphasized.

This study has identified the importance of patient and family education and of considering how information should be delivered, as well as the type and timing. Patients' information needs vary across their clinical admission and consequently the timing of education information and the learning materials used should be flexible. It also suggests that patients need the scope, seriousness and prognosis of the PCI procedure and resumption of lifestyle activities to be considered. **BJCARDN**

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## KEY POINTS

- ♦ Patients undergoing percutaneous coronary intervention for the first time may be missing out on education and information tailored to their needs
- ♦ Patients undergoing emergency PCI may have missed the opportunity for pre-procedure education, making post-procedure information even more important
- ♦ Patient perceptions of the apparent 'simplicity' of the procedure need to be addressed
- ♦ Patients may prefer written or visual information to verbal discussion, and ideally materials should cater for a range of learning styles
- ♦ There is also a need to consider education for family members

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