Research paper

Outcomes of a randomised pilot trial of a nurse-led clinic for patients after percutaneous coronary intervention

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ARTICLE INFORMATION

ABSTRACT

Background: Hospitalisation for percutaneous coronary intervention (PCI) in Australia is reducing. Patients who undergo PCI may be discharged home without a post-discharge health management plan, referral for secondary prevention, or understand their chronic condition. Subsequently, negative psychological symptoms such as anxiety and depression may be experienced in the post-discharge period.
Objectives: This study assessed the effectiveness of a nurse-led clinic on patients' cardiac self-efficacy and negative psychological symptoms of anxiety and depression 1-week post-PCI discharge.
Methods: One-hundred and eighty-eight potential participants were screened, and 33 participants were block-randomised to study groups. The nurse-led clinic used a person-centred approach and delivered tailored education, health assessment, and post-discharge support. In Phase 1, the Cardiac Self-efficacy Scale and State-Trait Anxiety Inventory measured primary outcomes, while the Cardiac Depression Scale was used to measure secondary outcomes. Phase 2 evaluated participants' experiences and healthcare professionals' perceptions of the intervention through semi-structured interviews.
Results: In Phase 1, intervention group participants did not show improvements in mental health indicators compared to standard care group participants, except for a moderate reduction in anxiety levels ($d = 0.50$). Phase 2 qualitative findings; however, highlighted the benefits of the nurse-led clinic.
Conclusions: Overall, findings suggest that nurse-led clinics may be valuable to reduce anxiety and act as a supportive measure in the early post-discharge period until commencement of a secondary prevention program. Further research with a more powered sample is needed to determine the significance of the findings.

1. Introduction

Coronary heart disease (CHD) is the leading cause of death in Australia.[1] Percutaneous coronary intervention (PCI) is a treatment option considered for the treatment of severe CHD and is offered electively or undertaken as an emergency procedure.[1,2] Hospitalisation for PCI in Australia and internationally is reducing with the average length of stay between 4 h to 4.3 days for an uncomplicated procedure.[3–6] While an earlier discharge offers advantages for patients, there are also potentially negative consequences.[7] A shorter length of stay may limit nurse teaching and patients may be discharged without receiving full education, including clarification about their chronic condition, post-discharge self-management, or referral to a secondary prevention program (cardiac rehabilitation [CR]).[8–11]

With the potential for an increase in anxiety surrounding hospitalisation for PCI, patients may not absorb and retain all the information provided, leading to health misconceptions, psychological distress, and poor confidence or self-efficacy (SE) to self-manage.[12–15] The increased risk for post-discharge complications is anxiety provoking in the early post-discharge period and may be a consequence

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of inadequate education and self-management preparation.[13,16–19] With wait times to cardiologist review and attending CR between 8.5 and 127 days, lack of social support, anxiety, and depressive symptoms may be experienced in the early post-discharge period.[20–23] The literature identifies that little is known about the early post-discharge period, the experiences, and follow-up care received by patients during this time.[11]

SE is highlighted to play an influential role on thoughts, behaviour, and motivation and is strongly linked with psychological distress, decreased motivation, and low self-esteem.[24] Measuring SE after a cardiac event and PCI is important, given the uncertainty surrounding the patient's procedure, outcome, and prognosis.[9] Moreover, the cardiac patient's experience may lead to increased anxiety, depression, and poor perceptions of control and therefore impaired post-discharge self-management and coping.[12,15]

Approximately 70–80% of people who experience an acute cardiac event experience symptoms of anxiety and depression.[25,26] Further, with a short hospitalisation and focus on treatment of the coronary event, symptoms of anxiety and depression may be overlooked or not present until the post-discharge period.[27–30] Importantly, anxiety is highlighted as coexisting with depression, with similar cardiovascular effects in patients with depression and anxiety.[31,32] While depression alone increases the risk for adverse cardiac events, evidence highlights a synergistic effect of anxiety and depression and increased risk of cardiac mortality.[33,34] Thus, with a strong relationship between anxiety, depression, and a cardiac event, coupled with the effects of psychological distress on self-management and a reduced length of stay, a nurse-led clinic for patients post-PCI is a viable option.[24,26,35,36]

The importance and effectiveness of nurse-led clinics to manage patients with chronic conditions are highlighted, achieving short to medium and some long-term patient outcomes.[37–39] While nurse-led clinics are cost-effective, they have also demonstrated effectiveness in enhancing quality of life and reducing cardiovascular risk factors and psychological distress in patients if undertaken early.[37,40,41] Additionally, nurse-led clinics may reduce the burden of chronic and acute illness on the healthcare system by preventing patient deterioration through earlier detection of problems.[40,42] In Phase 1, it was expected that patients exposed to a post-discharge, nurse-led educational intervention would show reduced anxiety and depressive symptoms and increased SE compared to those receiving standard care. In Phase 2, intervention group participants' experiences and healthcare professionals' perceptions of the nurse-led clinic were explored.

2. Materials and methods

2.1. Study design

The study was undertaken as a two-Phase randomised pilot study.

2.2. Participants

Ethical approval was granted for this study. On the day of discharge, the nurse unit manager at each hospital site referred potential participants who underwent a PCI procedure to the principal investigator (PI). Participants who met study inclusion criteria were recruited (see Table 1).

To measure the effectiveness of the nurse-led clinic in Phase 1, a sample size calculation was undertaken with 10% of the parent study sample size utilised (N = 22).[43] A total of 33 participants were recruited and randomised to the Phase 1 pilot study. In Phase 1 the effectiveness of the nurse-led clinic on SE and negative psychological symptoms (i.e., within the early post-discharge period) was

measured. In Phase 2, a subset of intervention group participants (n = 6) and healthcare professionals (i.e., cardiologists, clinical nurses, and nursing executives) (n = 10) were interviewed regarding the value of the nurse-led clinic after presentation of the intervention in detail.

2.3. Randomisation and sequence generation—Phases 1 and 2

The research utilised an experimental design piloted in two Phases to investigate the impact of a nurse-led clinic within 5–7 days after hospitalisation. Phase 1 was undertaken between from August 2012 to August 2013. Participant recruitment ended in April 2013 because of recruitment and university timeline constraints. Patients were recruited by the PI from two large metropolitan hospital sites (one public and one private). One-hundred and eighty-eight potential participants were screened, with 33 participants recruited and randomised to the study. Baseline data collection and randomisation occurred at day of discharge (Time 1) using a blocking method. A random number generator was used to generate the allocation sequence, and each number was placed individually in an opaque envelope for selection and in blocks of 10. Participants and hospital staff were blinded to the allocation sequence.

Participant follow-up occurred at Day 5–7 (Time 2), 1-month (Time 3), and 3-months (Time 4) post-hospital discharge by the PI. Owing to the delivery of the intervention at Time 2 (immediately after completion of the study measures) and Time 3 follow-up 1-month later, analysis of data between these two time points is presented. Follow-up at 1-month post-discharge was chosen as the optimal time point to avoid confounding with other programs such as CR.[21,44,45] As secondary prevention attendance (i.e., CR) has been shown to reduce psychological symptoms, analysis of data at the 1-month follow-up enabled a clearer assessment of the effects of the nurse-led intervention on study outcomes.[46]

In Phase 2, the PI conducted semi-structured interviews with healthcare professionals and intervention group participants. Intervention group participants and healthcare professionals were approached by the PI via postal mail and telephone to explore the value of the nurse-led clinic and its potential real-world application.

3. The intervention

This study assessed the effectiveness of a nurse-led clinic on SE and negative psychological symptoms (i.e., anxiety and depression) 1-week post-PCI discharge.

3.1. The nurse-led clinic (Time 2)

The nurse-led clinic was undertaken by the PI at Day 5–7 (Time 2) post-discharge. Intervention group participants returned once to

Table 1
Study inclusion and exclusion criteria.

Inclusion criteria	Exclusion criteria
• ≥18 years; • primary or elective PCI; • understand and speak English; & • telephone access.	• Children and/or young people (i.e., <18 years of age); • unable to understand or speak English; • overseas resident; • on vacation in Australia for less than 12-months; • suffering from a mental illness/cognitive impairment and unable to legally consent; • pregnancy; • in existing dependent or unequal relationships; • highly dependent on medical care; & • no telephone communication access

PCI, percutaneous coronary intervention.

the hospital site where their PCI procedure was undertaken to attend the clinic. Patient health assessment and education took approximately 45−60 minutes—a psychosocial assessment was also undertaken. Physical assessment involved undertaking a primary survey, 12-lead electrocardiogram (ECG), and vital signs. Neurovascular observations were undertaken in addition to assessment of chest pain and femoral arterial access sites (i.e., inspection, palpation, and auscultation). Participant education was tailored, interactive, and delivered using visual and verbal methods. Educational content centred on the post-discharge period, expectations of recovery, personal care, suitability of activities, CR program attendance, and misconception clarification (i.e., health and CR). The PI reinforced post-PCI education, self-management, and emotions that may be experienced in the post-discharge period.

3.2. Standard care group

Standard care group participants received usual hospital education which included verbal and written information surrounding post-discharge self-management (i.e., access site, medication, angina, diet, and specialist follow-up) and secondary prevention referral. All standard care group participants were followed up at each time point by the PI via telephone only. Standard care group participants completed the same assessment tools as intervention group participants.

3.3. Primary and secondary outcomes

The study's primary outcomes were the enhancement in SE to self-manage and reduction in symptoms of anxiety as measured by the Cardiac Self-Efficacy (CSE) Scale and State Trait Anxiety Inventory (STAI-T). SE and anxiety were chosen as the primary outcomes given their relationship and effects on post-discharge self-management.[12] Moreover, as anxiety is a national and global health priority, it was selected as the primary outcome.[47–49] Secondary outcomes for the present study included the reduction in depressive symptoms as measured by the Cardiac Depression Scale (CDS).

4. Measurements

4.1. Phase 1

4.1.1. Self-efficacy

Self-efficacy was measured with using the CSE Questionnaire ($\alpha = .90$). Alpha reliability for both factors of the CSE was high for "controlling symptoms" ($\alpha = .90$) and "maintaining function" ($\alpha = 0.87$).[50]

4.1.2. State-Trait Anxiety Inventory

Trait anxiety was measured using the trait subscale of Spielberger's State-Trait Anxiety Inventory (STAI-T) with good reliability in the current sample ($\alpha = .91$). The STAI has a high internal reliability for the trait subscale ($\alpha = 0.90$).[51]

4.1.3. Cardiac Depression Scale

The CDS measured depressive symptoms with good reliability ($\alpha = 0.83$). The CDS has a high internal reliability with studies reporting an alpha value of $\alpha = 0.90$ to $\alpha = 0.93$.[52,53]

4.2. Phase 2

4.2.1. Semi-structured interviews

The Phase 2 study was undertaken at 6-months post-discharge between June and August, 2013. All participants in Phase 2 were interviewed by the PI, post-PCI via telephone using a semistructured interview guide. The intervention was also explained to healthcare professionals using a face-to-face delivery method, and a subsequent interview was undertaken. Interview duration was up to 60 minutes, recorded using an MP3 player.

4.2.2. Data analysis

Data were analysed using IBM SPSS, version 19 (Armonk, NY: IBM Corp). The intention-to-treat principle was applied in the analysis of all study data. Exploration of data and participant characteristics were undertaken by means of descriptive statistics. Effect size calculations were undertaken to determine the effect of participation in the nurse-led clinic. Therapeutic outcomes of the intervention were analysed by means of reliable change index calculations.

Abductive reasoning and an analytic evaluative approach[54,55] to data analysis was undertaken to explore Phase 2 data. Following interviews, raw data recorded were transcribed. All interview recordings were de-identified, analysed, and coded at the time of the interview to ensure confidentiality.[56] Participants' names were not used throughout the course of the interview. Quantitative and qualitative data from both study Phases were reviewed, analysed, and interpreted in the context of the underpinning theoretical framework. Findings were interpreted using the SE theory key constructs.

5. Results

Thirty-three participants were enrolled and randomised to the intervention (n = 13) or standard care group (n = 20) after baseline data collection (see Fig. 1).

5.1. Baseline (Time 1) data collection

Modifiable and non-modifiable risk factors were consistent with risk factors in people diagnosed with CHD for both study groups (see Table 1). Participants' mean age was 65.03 years (SD = 9.76, 45−81), with 81.8% (n = 27) males and 18.2% (n = 6) females. English was the primary language spoken at home for 93.9% of participants (n = 31). (see Table 2).

5.2. Outcomes and estimation

5.2.1. Phase 1 results: self-efficacy, anxiety, and depression

To measure the effectiveness of the nurse-led clinic on primary and secondary outcomes and as early, post-discharge follow-up for negative psychological symptoms was recommended. Pre- and post- intervention data were collected and analysed for time points 2 (Day 5−7) and 3 (1-month) and are presented below.[20,57]

5.2.1.1. Self-efficacy.
A moderate reduction on CSE was demonstrated ($d = 0.60$) in intervention group participants; participation in the standard care group had no effect ($d = -0.19$). A positive reliable change was evident in one intervention group participant and one standard care group participant. Treatment outcomes in both groups were similar for CSE (see Table 3).

5.2.1.2. Trait anxiety.
Trait anxiety demonstrated a moderate reduction in intervention group participants ($d = 0.50$), while nil effect was seen in standard care group participants ($d = 0.16$). A negative reliable change was observed in five intervention group participants and two standard care group participants (see Table 4). Trait anxiety treatment outcomes worsened in some standard care group participants (see Table 4); improvements and recovery were seen in most intervention group participants.
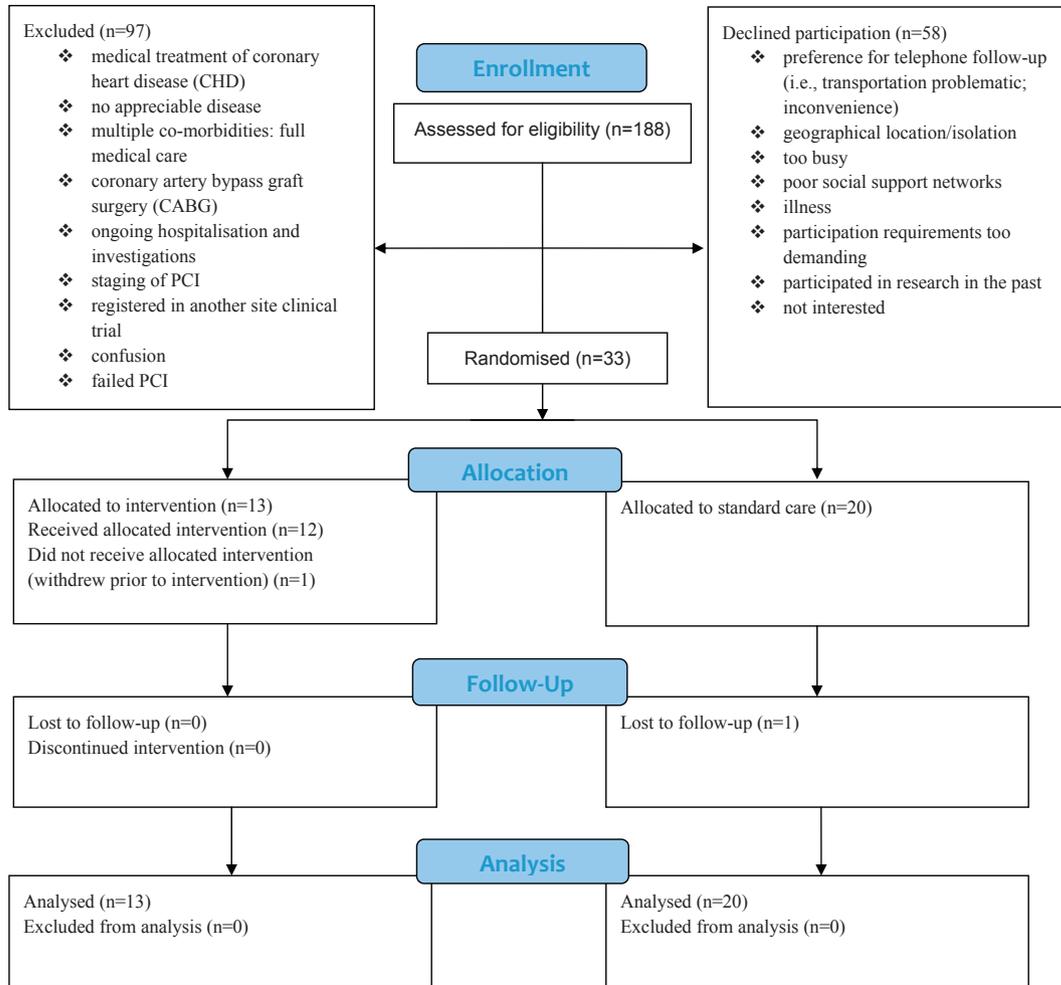
Figure 1. Flow chart of study participation. PCI, percutaneous coronary intervention.

5.2.1.3. Depression. A small reduction was noticeable on depressive symptoms; however, this was observed in both intervention ($d = 0.26$) and standard care groups ($d = 0.37$). Pre- to post-standardised recovery rates for depressive symptoms demonstrated similar outcomes in both study groups (see Table 5).

Overall, Phase 1 preliminary findings demonstrate an impact of the nurse-led clinic on anxiety levels for participants in the present study.

Table 2
Modifiable and non-modifiable risk factors (Time 1—baseline).

Variables	Intervention group (n = 13) %(n)	Standard care group (n = 20) %(n)
Body mass index (BMI > average)	61.5 (8)	75 (15)
Alcohol	69.2 (9)	60 (12)
Smoking	7.7 (1)	20 (4)
Hypertension	53.8 (7)	60 (12)
Hypercholesterolaemia	53.8 (7)	65 (13)
Atrial fibrillation	23.1 (3)	20 (4)
Anxiety	–	5.0 (1)
Depression	15.4 (2)	5.0 (1)
Diabetes mellitus	15.4 (2)	10 (2)
Exercise (i.e., active)	100 (13)	95 (19)
Chronic kidney disease	–	–

Risk factors for coronary heart disease (CHD) extracted from participants' medical history on consent. Percentage (%) of participants with risk factors for CHD.

5.3. Phase 2—findings

5.3.1. Support enhances recovery

Phase 2 findings demonstrated the value of this nurse-led clinic as a supportive post-discharge measure in participants reported experiences and healthcare professionals' perceptions. The supportive nature of the clinic, continuity of care received, and reassurance of healthcare professional follow-up in the early post-discharge period was highlighted. Participants reported on the benefits of attending a post-discharge clinic led by a healthcare professional, highlighting the reinforcement of education surrounding the recovery process (i.e., physical and psychological) and self-management (i.e., symptom identification and management). Healthcare professionals also highlighted the value of the clinic in terms of support, timing, content, and clarity of information delivered. Additionally, healthcare professionals also commented on the application of the clinic to both PCI and diagnostic coronary artery catheterisation patients.

Table 3
Standardised recovery rates: cardiac self-efficacy (CSE) Time 2 to Time 3.

Group	Frequency (percentage)			
	Worse	No change	Improved	Recovered
Intervention (*n* = 13) Missing (*n* = 1)	8 (61.53%)	0 (0%)	3 (23.10%)	1 (7.70%)
Standard care (*n* = 20)	9 (45%)	1 (5.0%)	9 (45%)	1 (5.0%)
Total (*N* = 33)	17 (51.52%)	1 (3.03%)	14 (36.40%)	2 (6.10%)

Table 4
Standardised recovery rates: Trait anxiety Time 2 to Time 3.

Group	Frequency (percentage)			
	Worse	No change	Improved	Recovered
Intervention (n = 13) Missing (n = 1)	1 (7.70%)	2 (15.40%)	7 (53.85%)	2 (15.40%)
Standard care (n = 20)	6 (30%)	3 (15%)	11 (55%)	0 (0%)
Total (N = 33)	7 (21.20%)	5 (15.15%)	18 (54.54%)	2 (6.10%)

I have a supportive family, but to have a nurse ask how I am doing gives me great reassurance. (Participant, 003)

I think it's a very useful intervention (post-PCI nurse-led clinic). The timing is critical—getting it out to them as they leave but then they're still starry eyed and then again after they go home. (Healthcare professional, 008)

5.3.2. Self-awareness enhances self-management

Greater confidence to self-manage after attending the nurse-led clinic was identified in this research with respect to lifestyle and behaviour change, and post-discharge complication identification and management. Healthcare professionals also highlighted the potential for enhancement in self-confidence to self-manage at home, particularly with reference to the ability to ask questions and clarify information in the early post-discharge period. The clarity and simplicity of the information provided reinforced how the nurse-led clinic enhanced SE.

I thought I was made of steel before this and you probably helped me with that … I kept saying that I was very confident and I wasn't depressed … why I felt I was confident and not depressed was because of your support. (Participant, 022)

They're allowed to explore their feelings, ask questions, get clarity around it, and understand what's going on—I would imagine that would be a big confidence boost to them. (Healthcare professional, 002)

5.3.3. Coming to understand the situation

The realisation surrounding the cardiac event and procedure, the physical and emotional vulnerability encountered in the early post-discharge period, and the supportive nature of the clinic were highlighted by participants. The nurse-led clinic was viewed as a valuable approach to support the reduction in symptoms of anxiety by healthcare professionals.

It's good to have that professional person there to give that bit of advice like that when someone is, as I was feeling a little bit uneasy because I thought it (the haematoma) should have gone down already. (Participant 009)

I think it definitely would relieve anxiety because sitting down with someone for three quarters of an hour and going through it all…I would be less anxious and especially so soon after. (Healthcare professional, 008)

Table 5
Standardised recovery rates: Cardiac Depression Scale Time 2 to Time 3.

Group	Frequency (percentage)			
	Worse	No change	Improved	Recovered
Intervention (n = 13) Missing (n = 1)	3 (23.10%)	0 (0.0%)	8 (61.54%)	1 (7.69%)
Standard Care (n = 20)	5 (25%)	0 (0%)	14 (70%)	1 (5.0%)
Total (N = 33)	8 (24.24%)	0 (0%)	22 (66.66%)	2 (6.06%)

Overall, Phase 2 findings highlight that the nurse-led clinic may be a beneficial post-discharge supportive measure after undergoing PCI. Reinforcement of nurse-led education, support, and follow-up in the early post-discharge period after undergoing a PCI procedure was highlighted in the analytical findings and should be explored further in a Phase 3 study.

6. Discussion

6.1. Quantitative findings

The present study investigated the effectiveness of a nurse-led clinic on SE, anxiety, and depression for patients who underwent PCI in the early post-discharge period. Overall, quantitative findings were not consistent with expectations and, therefore, did not result in an increase in SE (d = 0.60) as expected, although a moderate reduction was evident for anxiety (d = 0.50). A small reduction was demonstrated on depressive symptoms (d = 0.26); however, this was observed in both groups.

Bandura[58,59] reinforces how low SE may affect patients post-procedurally, particularly with respect to goal setting and behaviour change. Notably, outcome expectations, sociostructural, psychosocial, and physiological influences (i.e., poor social support and psychological distress) may also impact on confidence or SE to undertake healthcare behaviours, goal setting and achievement.[58,59] As such, Bandura's Theory rationalises why SE was not enhanced in the present study.[58,59]

Sarkar et al.[60] highlight how a low SE may be affected independent of psychological and cardiovascular symptoms. This finding is important and may also account for the small reduction of SE and moderate reduction in anxiety symptoms. Bandura[12,58] highlights that increases in SE should result in a subsequent reduction in anxiety; however, as identified, this was not the case with both anxiety and SE reducing simultaneously. As identified, nurse-led clinics are capable of achieving psychological outcomes if undertaken early and, therefore, with the intervention undertaken in the first 5—7 days post-discharge, may explain the reduction in trait anxiety symptoms in study participants.[41] Additionally, given the ability to achieve short to medium and some long-term patient outcomes, the short-term benefits in the present study were evident with respect to reduction of symptoms of anxiety in Phase 1.[38,39] The anxiety-provoking nature of PCI is highlighted in the literature and may result in a reduced ability to cope.[9] Moreover, where symptoms of anxiety in patients with CHD may affect learning, coupled with enhanced symptoms on discharge, short hospitalisation, and limited post-discharge continuity of care;[11,13,61] nurse-led support in the early post-discharge period for this group of patients is beneficial.

The reduction in SE in intervention group participants may be explained by the high level of baseline trait anxiety measured. Increased anxiety for patients with CHD is highlighted during hospitalisation and on discharge.[37] As a result of increased anxiety (i.e., negative psychological states), both learning and behavioural changes required post-PCI may be affected.[9,37] Intervention group participants' increased trait anxiety may have therefore potentially contributed to the overall reduction in SE as measured by the CSE scale.

While depressive symptoms were identified in participants in the present study, a small effect and therapeutic outcomes were observed in a similar percentage in both study groups. The importance of depressive symptom identification was paramount as the present study aimed to differentiate between both life-changing depressive symptoms and clinical depression.[62] Given the strong link between depression and CHD, focus on the cardiac

event during hospitalisation and post-event mortality, nurse-led support, follow-up, and screening in the present study was paramount[28,29,63,64] While anxiety and depression may coexist, the present study piloted the impact of the nurse-led clinic on SE, anxiety, and depression.

6.2. Qualitative findings

Qualitative findings highlight the importance of the nurse-led clinic as a supportive measure in the early post-discharge period for patients post-PCI. The clinic was supportive in early recovery, emphasised the gravity of gravity of their chronic condition, the nature of the procedure, and increased self-awareness of the need to self-manage. The literature reinforces the effectiveness of nurse-led interventions for patients with CHD, particularly in relation to the reduction of cardiovascular risk factors and negative psychological symptoms (i.e., anxiety and depressive symptoms).[38,41,62] In the present study, these findings were identified by both patients and healthcare professionals, reinforcing the application of nurse-led clinics to the broader cardiovascular patient population. The nurse-led clinic also encouraged participants' realisation of the significance surrounding the cardiac event and procedure, which is important as patients who experience a PCI sometimes overlook the gravity of their procedure.[11,65,66]

Creating a supportive environment, encouraging self-awareness, goal setting, and behaviour change are all achievable with nurse-led clinics; however, they are dependent on the level of support provided.[39,67] In the present study, participants reported on the value of the nurse-led clinic, identifying feeling supported, greater self-awareness (i.e., post-procedure and chronic condition), and confidence in their ability to self-manage. The impact of a therapeutic nurse—patient relationship and effective communication may result in the patient feeling support, trust, and value.[67] Overall, Phase 2 outcomes identified that the nurse-led clinic provided professional support, achieved a trusting relationship, and enhanced patient self-awareness (i.e., illness perception) and self-management.

Overall, preliminary evidence, especially the qualitative findings, is promising and reflect the importance of nurse-led clinics delivered as an outpatient intervention. The present study reinforces the importance of continuity of care, therapeutic nurse-patient relationships and the benefits of early post-discharge support until CR commencement. As acknowledged, a post-discharge gap for PCI patients has been identified and may provide this group of patients with essential post-discharge support.

6.3. Clinical implications

The nurse-led clinic may be effective in educating patients outside the hospital setting given preliminary evidence supporting short-term and some medium and long-term outcomes.[38,39] The clinic may potentially reduce the burden of re-hospitalisation for individuals with conditions which may be managed in the community (i.e., outpatient clinic) by a cardiology clinical nurse or nurse practitioner.

6.4. Trial limitations

It is possible that, in Phase 1, the intervention alone may have failed independent of other potential influences on psychological states. Second, intervention follow-up could have been undertaken closer to the intervention (e.g., 1—2 weeks post-intervention) to measure the short-term impact of the nurse-led clinic. Difficulties in the recruitment process were encountered

due to the face-to-face nature of intervention delivery and geographical isolation of potential participants. It is also likely that standard care group participants, because of contact with the PI and study participation, may have experienced measurement and experimenter effects.[68,69] Phase 2 findings are also limited in that only participants and healthcare professionals from one study site were interviewed.

7. Conclusions

Overall, while the pilot study aimed to enhance SE and reduce negative psychological symptoms, study hypotheses were not strongly supported. Preliminary evidence; however, demonstrated findings worthy of consideration and further exploration. Phase 1 quantitative data showed promise with respect to therapeutic outcomes on anxiety but not overall SE or depression. Phase Two findings highlighted the supportive nature of the nurse-led clinic with respect to continuity of care and reinforcement of education to enhance self-management. Furthermore, the reassurance of having a registered nurse undertake post-discharge follow-up in the early post-discharge period while awaiting cardiology review and CR commencement was highlighted. A Phase Three, multicentre study is required to determine the efficacy of the present intervention on primary and secondary outcomes. Furthermore, given the strong link between anxiety, depression, and the increased risk of a future cardiac event, early symptom identification through ongoing screening is warranted. Investigation of the cost-effectiveness of the intervention is also recommended.

Appendix A. Supplementary data

Supplementary data related to this article can be found at https://doi.org/10.1016/j.aucc.2018.06.009.

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