


SYDNEY SOUTH WEST  
AREA HEALTH SERVICE  
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SOUTH WESTERN SYDNEY CENTRE  
FOR APPLIED NURSING RESEARCH



## Validation of the Revised Cardiac Rehabilitation Preference Form in post-Percutaneous Coronary Intervention patients

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LEADERS IN EVIDENCE BASED PRACTICE

## Participation in Cardiac Rehabilitation

Participation rates in CR remain less than optimal ranging between 21% and 75 % and is associated with


- the medical diagnosis,
- socio-demographic characteristics of patients and
- the components of the CR programs.

### Medical diagnosis

- less than 25% post PCI patients participate in CR programs.


### Socio-demographic characteristics

- Men, younger patients, and those who are married or living with a partner are more likely to participate in CR programs.
- people who are less educated, unemployed or of lower socio-economic status are less likely to participate in CR programs.




## Elements of CR program that influence participation

- positive relationships with health professionals
- family support
- lack of pain during exercise
- ability to discuss problems
- discuss progress



## The original Cardiac Rehabilitation Preference Form (CRPF) (Moore et.al.)


- consisted of 17 items ranked on ranging from 0 (strongly disagree) to 4 (strongly agree)
- items were derived from
  - a review of the literature,
  - focus groups with CR participants
  - individual interviews with people post cardiac events.
- Content validity of the CRPF was assessed by a specialist nurse working in CR program, nurse researcher and members of a cardiac patient group.
- Test – retest correlations over a one week period demonstrated a correlation coefficient of 0.91
- The findings indicated that discussing their progress and receiving encouragement from health professionals as important features of a CR program.



## Aims of the study

This was a sub study of a larger study  
The aims were to

- determine the content validity of the CRPF-R in the Australian setting;
- perform an exploratory factor analysis on the 15-item in patients following PCI;
- establish the reliability of the overall 15-item CRPF-R and its subscales;
- determine if the CRPF-R scores were different between different demographic groups; and
- compare CRPF-R scores in participants and non-participants in a CR program.




## Evaluation of the CRPF-R Scale

### Inclusion Criteria

#### Patients

- aged between 18-80 years
- undergone elective, primary or rescue PCI between April 1<sup>st</sup> 2003 and March 31<sup>st</sup> 2004 .
- had a Telephone Interview of Cognitive Status (TICS) score of more than 30
- were able to complete the questionnaire



## Exclusion Criteria

### Patients with

- significant co morbidities, such as cerebrovascular accident
- significant neurological deficit
- cognitive impairment (TICS < 30)
- malignant disease undergoing active therapy
- any condition of sufficient severity to impair co-operation in the study e.g. chronic alcoholism
- a length of hospital stay of more than 30 days following the PCI.
- transferred to a nursing home following the procedure
- unable to be contacted (no telephone, incorrect address)



## Method

1. Ethics approval obtained from Sydney South West Area Health Service and University of Western Sydney
2. Potential participants identified from the cardiology data base
3. Pre-survey screening according to inclusion criteria
4. Participants sent questionnaire for completion



## Assessment of Cognitive function

### Cognitive status

The Telephone Interview of Cognitive Status (TICS)

*11-item screening test modelled on the Mini Mental State Examination (MMSE).*

*The maximum score obtainable is 41 points and participants with a score of less than 30 are considered to be cognitively impaired.*



## Demographics of participants (n=140)

Variable	% or Mean (SD)
Age (years)	61.62 ± (11.89)
Sex (% male)	75.7
Living with partner (%)	73.6
Highest educational achievement (%)	
•Some primary school	2.9
•Completed primary school	6.5
•Some high school	49.7
•Completed high school	7.9
•Post high school education	33.0



## Risk factors (n=140)

BMI (kg/m <sup>2</sup> )	29.03 ± (5.07)
Diabetes (%)	20.7
Hypercholesterolaemia (%)	49.3
Hypertension (%)	45.7
Smoker (%)	23.0
History of cardiac disease (%)	70.0
History of cerebrovascular disease (%)	6.4



## Factor Loadings (n = 140)

	Factor 1: CR program features	Factor2: Convenience features
Discuss progress	0.72	
Ease of learning exercises	0.70	
Not get overly tired	0.63	
Set own goals	0.63	
Discuss problems	0.60	
Not have pain while exercising	0.60	
Exercises are not boring	0.60	
Receive individualised attention	0.57	
Receive encouragement from professionals	0.57	
Exercise with someone	0.54	
Acceptable distance from home		0.81
Convenience of parking		0.79
Flexible hours		0.78
Does not interfere with other activities		0.69
Available transport		0.56



## Reliability of the CRPF-R

- The scale and subscales demonstrated good internal consistency.
- The Cronbach's alpha coefficient was
  - 0.87 for the total CRPF-R
  - 0.85 for Factor 1: 'CR program features'
  - 0.81 for Factor 2: 'Convenience features'



## CRPF-R scores comparisons: demographic characteristics and cardiac rehabilitation attendance

	Total CRPF-R	Factor 1: CR program features	Factor 2: Convenience features
<b>Demographic characteristics</b>			
<i>Age</i>			
Up to 64 years	31.4 (6.2)	21.6 (4.2)	9.8 (3.0)
More than 64 years	32.5 (6.8)	33.1 (4.8)	10.4 (2.0)
<i>P</i> -value	0.31	0.56	0.19
<i>Gender</i>			
Female	33.5 (6.6)	22.4 (5.0)	11.0 (2.5)
Male	31.3 (6.3)	21.6 (4.2)	9.7 (3.0)
<i>P</i> -value	0.09	0.33	0.02*
<i>In paid employment</i>			
No	31.7 (6.2)	21.7 (4.3)	10.0 (2.9)
Yes	32.0 (6.8)	22.1 (4.6)	9.9 (3.1)
<i>P</i> -value	0.78	0.61	0.89



## CRPF-R scores comparisons: and cardiac rehabilitation attendance

	Total CRPF-R	Factor 1: CR program features	Factor 2: Convenience features
<i>Recommended by a health professional (doctor, nurse or other health professionals)</i>			
No	31.2 (6.6)	21.2 (4.3)	10.0 (3.0)
Yes	33.0 (6.0)	22.9 (4.3)	10.1 (2.9)
<i>P</i> -value	0.11	0.03*	0.83
<i>Enrolled in CR program</i>			
No	31.0 (6.1)	21.1 (4.1)	9.9 (2.9)
Yes	32.9 (6.7)	22.7 (4.7)	10.3 (3.1)
<i>P</i> -value	0.07	0.04*	0.41
<i>Completed CR program</i>			
No	30.8 (6.3)	20.9 (4.2)	9.9 (3.0)
Yes	33.9 (6.3)	23.6 (4.2)	10.3 (2.9)
<i>P</i> -value	<0.01	<0.01	0.48



## Conclusions

### This study has

- demonstrated the acceptability and utility of the CRPF-R in the Australian setting
- identified important considerations in the structuring and delivery of CR programs with particular consideration of program features and convenience factors.

